

A LATE
Discourse

M A D E

In a Solemn Assembly of
Nobles and Learned Men
at Montpellier in France,

By Sir Kenelm Digby, K^t. &c.

Touching the Cure of Wounds
by the

Powder of Sympathy.

With Instructions how to make the
said Powder; whereby many other
Secrets of Nature are unfolded.

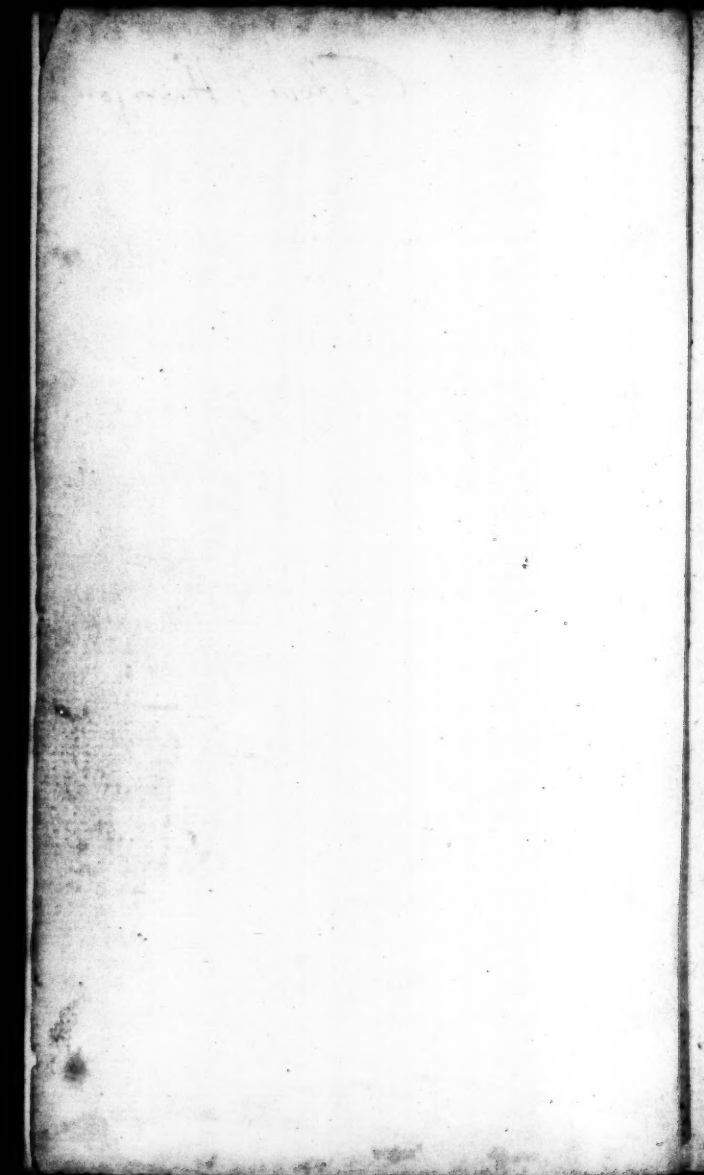
Felix qui potuit rerum cognoscere causas.

Rendered faithfully out of French into English
By R. White, Gent.

The fourth Edition, corrected and augmented;
with the addition of an Index

L O N D O N, Printed by J G and are to be
sold by Octavian Pulsey, jun. at the Bible
in S. Paul's Church-yard over against
the little North door. 1664. 2

270. g. 365.



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Discours





To the most Noble and
Heroick Gentleman,
JOHN DIGBY, Esq;
at Gotthurst.

S I R,



*I making this De-
dicatory Address
unto you, I may
truly say 'tis done
to the renowned
Author himself;
for besides the
ordinary relation of Father and Son
betwixt you, there was never, I dare
boldly*

bolaly say, such a perfect exact similitude 'twixt any two since the world began. For you resemble him, not onely in the outward Symmetry, in that goodly proportion and comportments of your body ; you are like him not onely in Physiognomy of Face, having the same spacious Front, the same perspicacious Eyes, with other visible parts so marvellously alike, but the Tone of your voice, the Accent of your words, your very Breath and Articulate sounds are the same with his ; insomuch that it being well observed, this admirable Similitude, or rather Identity, may be called one of the greatest wonders of these times.

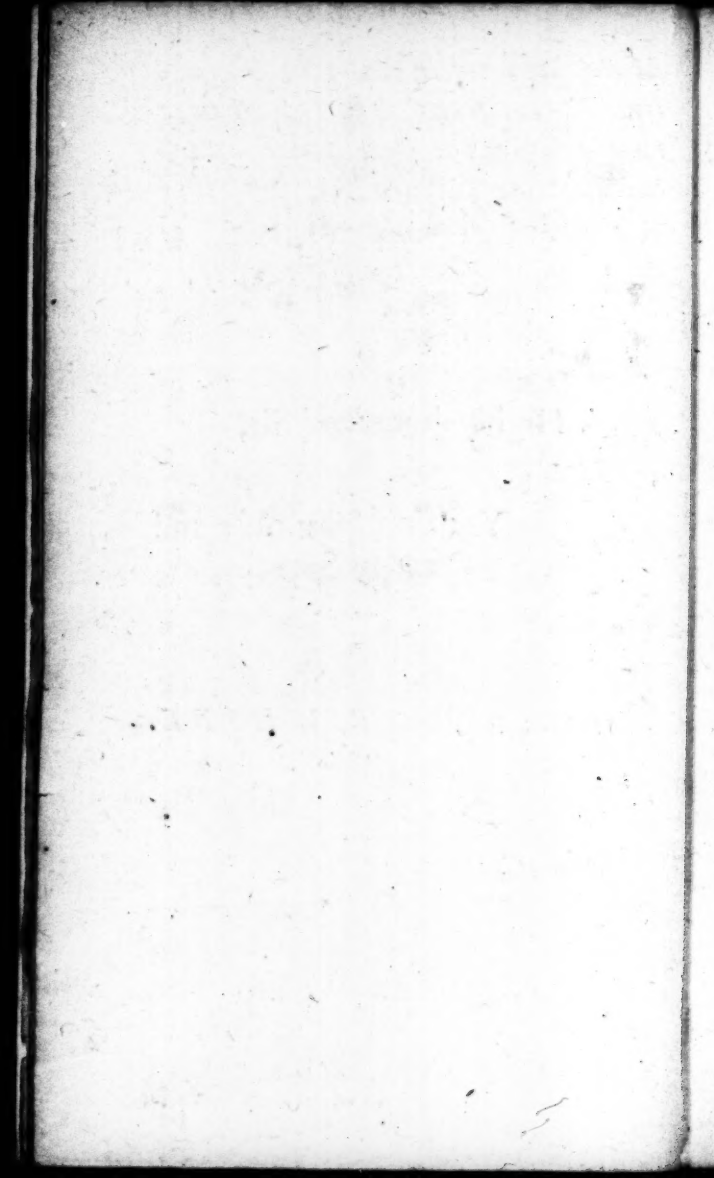
Now, Sir, this Resemblance being so exact through all the outward parts Cap pee ; it may be well presumed that you are also like him in the Idæa's of your Soul, and in the intern motions of your Mind,

Mind, and consequently in his sublime Speculations. Therefore I hope that neither the World will accuse me of Impertinence, or your self of Presumption, that I make this Dedication, and thereby style my self,

Highly-honoured Sir,

Your most humble and
ready Servant,

R. WHITE.



*An Extract of the Royal Privi-
lege in France for Printing
the said Discourse.*

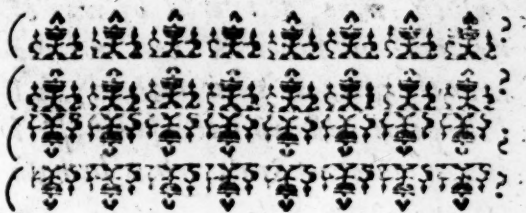
BY the grace and privilege
of the King, given in *Paris*
the one and twentieth of
December one thousand six hun-
dred fifty seven, It is permitted
to *John Ancelin* to cause to be
printed, sold and uttered, by what
Bookseller he shall think fit, a
Book intituled, *A Discourse made
in a famous Assembly by Cavalier
Digby, touching the cure of wounds
by the Powder of Sympathy, &c.*
And this during the time and
space of ten years, with a prohi-
bition to all Booksellers and Prin-
ters to counterfeit, sell or utter
the said Book, without the con-
sent and permission of the said
Ancelin, or of those who shall de-
rive a right from him, under the

penalty of one thousand five hundred *Livres*, and of all expences, damages and interests, as it is more amply contained within the Letters of the said Privilege.

The said *Ancelin* hath transmitted the right of the said Privilege to *Augustine Courbe* and *Peter Moet*, Merchants of Books in *Paris*, according to the Agreement betwixt them.

His Majesties Library is furnished with two Copies accordingly.

AN



An Information to the Knowing Reader.

THis exquisite Philosophical
Discourse was made lately
by that renowned Knight
Sir Kenelm Digby, in one of the
most famous Academies of France.
It contains a variety of many
recondite and high mysteries of
Nature, which are all here, un-
masked. And as all that great
Learned Assembly, composed of
the choicest Wits under that Clime,
stood then astonish'd at the pro-
found speculations of the Author,

(which were delivered by way of
Oration, and taken in Short writing
upon the place as 'twas uttered) so I
believe it will work the same effect
in any judicious Soul, when he hath
seriously perused it.

R. WHITE.

A



A
DISCOURSE
TOUCHING
The Cure of Wounds
by the Powder of
SYMPATHY..

My Lords,



Believe you will remain all in one mind with me, that to penetrate and know a Subject, it is necessary in the first place to shew whether the thing be such as it is supposed or imagined to be: For would not one unprofitably lose both his time and labour, to busie himself in looking after the causes of that which peradventure is but a Chimæra, without any foundation of truth?

I remember to have read in a place in *Plutarch*, where he proposeth this question, Wherefore those Horses, who while they are Colts have been pursued by the Wolf, and saved themselves by force of running, are more fleet then other Horses ? Whereunto he answers, That it may be that the scaring and affrightment which the Wolf gives unto the young beast, makes him try his utmost strength to deliver himself from the danger that follows him at the heels, therefore the said fright doth as it were unknit his joynts, and stretch his sinews, and makes the Ligaments and other parts of his body the more supple to run ; insomuch that he resents it all his life afterwards, and becomes a good Courser : Or it may be, says he, that those Colts which are naturally swift, save themselves by running away ; whereas others, who are not so, are overtaken by the Wolf, and so become his prey : and so it is not because they have escaped the Wolf that they are the more fleet, but it is their

their natural swiftnesse which saves them. He affords also other reasons, and at last concludes, that it may be the thing is not true. I find it not so fit (my Lords) to reply hereunto at a Table-discourse, where the chief design of Conversation is to passe away the time gently and pleasantly, without meddling with the severity of strong reasonings, which should hold the spirits in an high pitch of attention. But in so renowned an Assembly as this, where there are such judicious persons, and so profoundly learned, and who upon this meeting expect from me that I pay them in solid reasons; I should be very sorry, that having done my uttermost to make it clear, how the Powder, which they commonly call the Powder of Sympathy, doth naturally, and without any Magick, cure wounds without touching them, yea, without seeing of the Patient; I say, I should be very sorry that it should be doubted, whether such a cure may be effectually performed, or no.

In matter of fact, the determination of existence, and truth of a thing, depends upon the report which our senses make us. This businessse is of that nature; for they who have seen the effects, and had experience thereof, and have been careful to examine all necessary circumstances, and satisfied themselves afterwards that there is no imposture in the thing, do nothing doubt but that it is real and true. But they who have not seen such Experiences, ought to refer themselves to the Narrations and Authority of such who have seen such things. I could produce divers, whereof I was an ocular witnessse, nay, *Quorum pars magna fui*: But as a certain and an averred Example in the affirmative is convincing to determine the possibility and truth of a matter which is doubtful; I shall content my self, because I would not trespassse too much upon your patience at this time, to make instance in one onely; but it shall be one of the clearest, the most perspicuous, publick, and the most averred

red that can be, not onely for the remarkable circumstances thereof, but also for the hands, which were above the *Vulgar*, through which the whole businesse passed. For the cure of a very sore hurt was perfected by this Powder of Sympathy, upon a person that is famous, as well for his Learning, as for his several Employments. All the circumstances were examined, and founded to the bottom, by one of the greatest and most knowing Kings of his time, *viz.* King *James* of *England*, who had a particular talent and marvellous sagacity to discusse natural things, and penetrate them to the very bottom; as also by his Son the late King *Charles*, and the late Duke of *Buckingham*, their prime Minister. And in fine, all was registred among the Observations of the great Chancellour *Bacon*, to be added by way of *Appendix* unto his Natural History. And, I believe Sirs, when you shall have understood this History, you will not accuse me of vanity, if I attribute unto
my

my self the introducing into this quarter of the World this way of curing. Now the businesse was thus.

Mr. *James Howell* (well known in *France* by his Writings, and particularly by his *Dendrologia*, translated into French by Monsieur *Baudouin*) coming by chance as two of his best friends were fighting in Duel, he did his endeavour to part them, and putting himself between them, seized with his left hand upon the hilt of the sword of one of the Combatants, while with his right hand he laid hold of the blade of the other; they being transported with fury one against the other, struggled to rid themselves of the hinderance their friend made that they should not kill one another; and one of them roughly drawing the blade of his sword, cuts to the very bone the Nerves, and Muscles, and Tendons of Mr. *Howells* hand; and then the other disengaging his hilts, gave a crosse blow on his Adversaries head, which glanced towards his friend, who heaving up his fore hand to save the blow, he

was

was wounded on the back of his hand, as he had been before within. It seems some strange Constellation reigned then against him, that he should lose so much blood by parting two such dear friends, who had they been themselves would have hazarded both their lives to have preserved his : but this involuntary effusion of blood by them prevented that which they should have drawn one from the other : for they seeing Mr. *Howells* face besmeared with blood, by heaving up his wounded hand, they both ran to embrace him ; and having searched his hurts, they bound up his hand with one of his Garters, to close the veins which were cut, and bled abundantly. They brought him home, and sent for a Surgeon : but this being heard at Court, the King sent one of his own Surgeons, for His Majesty much affected the said Mr. *Howell*.

It was my chance to be lodged hard by him ; and four or five days after, as I was making my self ready, he came to my house, and prayed

me to view his wounds ; for I understand, said he, that you have extraordinary remedies upon such occasions, and my Surgeons apprehend some fear that it may grow to a Gangrene, and so the hand must be cut off. In effect, his countenance discovered that he was in much pain, which he said was unsupportable in regard of the extreme inflammation. I told him that I would willingly serve him, but if haply he knew the manner how I would cure him, without touching or seeing him, it may be he would not expose himself to my manner of curing, because he would think it peradventure either ineffectual or superstitious. He replied, that the wonderful things which many have related unto me of your way of curing, makes me nothing doubt at all of its efficacy ; and all that I have to say unto you is comprehended in the *Spanish* Proverb, *Hagase el milagro, y hagalo Mahoma*: Let the miracle be done, though Mahomet do it.

I asked him then for any thing that had the bloud upon it ; so he presently sent for his Garter, wherewith his hand was first bound : and having called for a Bason of water, as if I would wash my hands, I took an handful of powder of Vitriol, which I had in my Study, and presently dissolved it. As soon as the bloody Garter was brought me, I put it within the Bason, observing in the interim what Mr. *Howel* did, who stood talking with a Gentleman in a corner of my Chamber, not regarding at all what I was doing ; but he started suddenly, as if he had found some strange alteration in himself : I asked him what he ailed ? I know not what ailes me, but I find that I feel no more pain ; methinks that a pleasing kind of freshnesse, as it were a wet cold Napkin did spread over my hand, which hath taken away the inflammation that tormented me before. I replied, since that you feel already so good an effect of my Medicament, I advise you to cast away all your Plaisters,

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onely keep the wound clean, and in a moderate temper 'twixt heat and cold. This was presently reported to the Duke of *Buckingham*, and a little after to the King, who were both very curious to know the issue of the businesse, which was, that after dinner I took the Garter out of the water, and put it to dry before a great fire; it was scarce dry, but Mr. *Howells* servant came running, and told me, that his Master felt as much burning as ever he had done, if not more, for the heat was such, as if his hand were 'twixt coals of fire. I answered, that although that had happened at present, yet he should find ease in a short time; for I knew the reason of this new accident, and I would provide accordingly, for his Master should be free from that inflammation it may be before he could possibly return unto him: but in case he found no ease, I wished him to come presently back again, otherwise he might forbear coming. Thereupon he went, and at the instant I did put again the Garter into the

the

the water : thereupon he found his Master without any pain at all. To be brief ; there was no sense of pain afterward ; but within five or six days the wounds were cicatrized, and intirely healed. King *James* required a punctual information of what had passed touching this Cure : and after it was done and perfected, His Majesty would needs know of me how it was done, having drolled with me first, (which he could do with a very good grace) about a Magician and a Sorcerer. I answered, that I should be always ready to perform what His Majesty should command ; but I most humbly desired him, before I should passe further, to tell him what the Author, of whom I had the Secret, said to the Great Duke of *Tuscany* upon the like occasion. It was a religious *Carmelite* that came from the *Indies* and *Persia* to *Florence*, he had also been at *China*, who having done many marvellous Cures with his Powder, after his arrival to *Tuscany*, the Duke said he would be very glad to learn it of him : It was the father of
the

the Great Duke who governs now. The *Carmelite* answered him, That it was a Secret which he had learnt in the Oriental parts, and he thought there was not any who knew it in *Europe* but himself, and that it deserved not to be divulged, which could not be done, if his Highness would meddle with the practice of it, because he was not likely to do it with his own hands, but must trust a Surgeon, or some other servant, so that in a short time divers others would come to know it as well as himself. But a few moneths after I had opportunity to do an important courtesie to the said Frier, which induced him to discover unto me his Secret, and the same year he returned to *Persia*; insomuch that now there is no other knows this Secret in *Europe* but myself. The King replied, That he needed not apprehend any fear that he would discover, for he would not trust any body in the world to make experience of his Secret, but he would do it with his own hands; therefore he would have some of the Powder; which I delivered, instructing

structing him in all the circumstances. Whereupon His Majesty made sundry proofs, whence he received singular satisfaction.

In the interim Doctor *Mayerne*, his first Physician, watched to discover what was done by this Secret, and at last he came to know that the King made use of Vitriol. Afterwards he accosted me, saying, he durst not demand of me my Secret, because I made some difficulty to discover it to the King himself : But having learnt with what matter it was to be done, he hoped that I would communicate unto him all the circumstances how it is to be used. I answered him, That if he had asked me before, I would have frankly told him all ; for in his hands there was no fear that such a Secret should be prostituted: and so I told him all. A little after the Doctor went to *France*, to see some fair Territories that he had purchased near *Geneva*, which was the Barony of *Aubonne*. In this voyage he went to see the Duke of *Mayerne*, who had been a long time
his

his friend and protector, and he taught him this Secret, whereof the Duke made many Experiments; which if any other but a Prince had done, it may be they had passed for effects of Magick and Enchantments.

After the Dukes death, who was killed at the siege of *Montauban*, his Surgeon who waited upon him in doing cures, sold this Secret to divers Persons of Quality, who gave him considerable summes for it, so that he became very rich thereby. The thing being fallen thus into many hands, remained not long in terms of a Secret, but by degrees it came to be so divulged, that now there is scarce any Countrey-Barber but knows it.

Behold now, Sirs, the Genealogy of the Powder of Sympathy in this part of the World, with a notable history of a Cure performed by it. It is time now to come to the discussion, which is, to know how it is made. It must be avowed that it is a marvellous thing, that the hurt of a wounded

wounded person should be cured by the application of a remedy put to a rag of cloth or a weapon, at a great distance. And it is not to be doubted, if after a long and profound speculation of all the œconomy and concatenation of natural Causes, which may be adjudged capable to produce such effects, one may fall at last upon the true causes which must have subtil resorts and means to act. Hitherto they have been wrapped up in darknesse, and adjudged so inaccessible, that they who have undertaken to speak or write of them, (at least those whom I saw) have been contented to speak of some ingenious gentleness, without diving into the bottom, endeavouring rather to shew the vivacity of their spirit, and the force of their eloquence, than to satisfy their Readers and Auditors how the thing is really to be done. They would have us take for ready money some terms which we understand not, nor know what they signify. They would pay us with Conveniences, with Resemblances, with

Sympathies, with Magnetical virtues, and such terms, without explicating what these terms mean. They think they have done enough, if they feebly perswade any body that the businesse may be performed by a natural way, without having any recourse to the intervention of *Demens* and spirits: but they pretend not in any sort to have found out the convincing reasons, to demonstrate how the thing is done.

Sirs, if I did not hope to gain otherwise upon your spirits; I say, that if I did not believe that I should be able to perswade you otherwise than by words, I would not have undertaken this Enterprize: I know too well,

— — *Quæ ferre recusent,*

Quid valeant humeri. — —

Such a design requires a great fire, and vivacity of conceptions, volubility of tongue, aptnesse of expressions to insinuate as it were by surprisal, that which one cannot carry away by a firm foot, and by cold reasons, though solid. A Discourse of this nature ought not to attend a stranger,

ger,

ger, who finds himself obliged to display his sense in a language wherein he can hardly exprels his ordinary conceptions. Nevertheless, these considerations shall not deterr me from engaging my self in an Enterprife, which may seem to some much more difficult than that which I am now to perform, *viz.* to make good convincing proofs, that this Sympathetical cure may be done naturally, and to shew before your eyes, and make you touch with your finger how it may be done. You know that *perswasions* are made by ingenious *arguments*, which being expressed with a good grace, do rather tickle the imagination, than satisfie the understanding: But *Demonstrations* are built upon certain and approved Principles; and though they be but roughly pronounced, yet they convince and draw after them necessary Conclusions. They proceed as a strong Engine fastened to a Gate to batter it down, or as a plate of metall to imprint the mark of the money; at every turn that

truth makes, she approaches but little, and as it were insensibly, and makes not much noise, and there is no such great force required to turn her; but her strength, though it be slow, is so invincible, that at the end she breaks down the gate, and makes a deep impression on the piece of Gold or Silver: whereas the strokes of hammers or bars (whereunto may be compared the witty Discourses and flourished Conceptions of ingenious wits) require the arms of a Giant, makes a great noise, and at the end produces but little effect.

To enter then into the matter; I will, according to the method of Geometrical Demonstrations, lay six or seven Principles, as foundation-stones, whereon I will erect my structure. But I will lay them so well, and so firmly, that there will be no great difficulty to grant them. These Principles shall be like the Wheels of *Archimedes*, by the advantage whereof a Child might be capable to hale ashore the biggest Carack of King *Hieron*, which an hundred pair of

of Oxen, with all the Ropes and Cables of his *Arsenal*, were not able to stir: so by the strength of these Principles I hope to waft my Conclusions to a safe Port.

The first Principle shall be, that the whole Orb or Sphere of the Air is filled with light. If it were needful to prove in this point, that the Light is a material and corporal substance, and not an imaginary and incomprehensible quality, as many Schoolmen averre, I could do it evidently enough; but I have done this in another Treatise, which hath been published not long since. And it is no new opinion; for many of the most esteemed Philosophers among the Ancients have advanced it; yea, the great Saint *Augustine* in his third Epistle to *Volusian* doth witness it to be his own opinion. But touching our present business, whether the Light be the one or the other, it matters not; 'tis enough to explicate her course, and the journeys she makes, whereunto our Senses bear witness. 'Tis clear, that issu-

ing continually out of her source, which is the Sun, and lancing her self by a marvellous celerity on all sides by streight lines, there where she meets any Obstacles in her way, by the opposition of some hard or opaque body, she reflects, and leaping thence *ad angulos aequales*, she takes again her course by a streight line, untill she bandies some other side upon another solid body, and so she continueth to make new boundings here and there; untill at the end, being chased on all sides by the bodies which oppose her in her passage, she is tired, and so extinguisheth. In the like manner we see a Ball in a Tennis-court, being struck by a strong arm against the walls, leaps to the opposite side, that sometimes she makes the circuit of the whole Court, and finisheth her motion near the place where she was first struck. Our very eyes are witnesses of this progresse of the light, when by way of reflection she illuminates some obscure place, whither she cannot directly arrive; or when issuing immediately

mediately from the Sun, and beating upon the Moon, or some other of the Planets, the rays which cannot find entrance there, bound upon our earth, otherwise we should not see them; and there she is reflected, broken and bruised by so many bodies as she meets in her diversity of reflections.

The second Principle shall be, that the light glancing so upon some body, the rays which enter no further, and which rebound upon the superficies of the body, loosen themselves, and carry with them some small particles or atoms; just as the Ball, whereof we have spoken, would carry with it some of the moisture of the wall against which she is banded, if the plaster thereof were also moist, and as in effect she carries away some tincture of the Black wherewith the walls are coloured. The reason wherof is, that the light, that subtle and rarified fire, coming with such an imperceptible haste, for her darts are within our eyes as soon as his head is above

our Horizon, making so many million of miles in an unimaginable space of time; I say, the *light beating* upon the body which opposeth her, cannot chuse but make there some small incisions, proportionable to her rarity and subtility. And these small Atoms being cut, and loosened from their trunk, being composed of the four Elements, (as all bodies are) the heat of the light doth stick, and incorporate it self with the most humld, viscous, and gluing parts of the said Atoms, and brings them along with her. Experience shows us this as well as Reason; for when one puts a wet cloth to dry before the fire, the fiery rays beating thereon, those which find no entrance, reflect thence, and carry away with them some small moist bodies, which make a kind of mist betwixt the cloth and the fire. In like manner the beams of the Sun at his rising enlightning the Earth, which is humified either by rain or the dew of the night, raise a mist, which by little and little ascends to
the

the tops of the hills ; and this mist doth rarifie according as the Sun hath more force to draw it upwards, untill at last we lose the sight thereof, and that it becomes part of the air, which in regard of its tenuity is invisible unto us. These Atoms then are like Cavaliers mounted on winged Coursers, who go very far, untill that the Sun setting takes from them their *Pegasus's*, and leaves them unmounted ; and then they precipitate themselves in crowds to the earth, whence they sprung, the greatest part of them, and the most heavy fall upon the first retreating of the Sun, and that we call the *Serain*, which though it be so thin that we cannot see it, yet we feel it as so many small Hammers which strike upon our heads and bodies, principally on those that are ancient ; for the young men, in regard of the boiling of their blood, and the heat of their complexion, thrust out of them abundance of Spirits, which being stronger than those that fall from the *Serain*, repulse them,

and hinder them to operate upon the bodies whence these spirits came forth, as they do upon those that being grown cold by age, are not warmed by so strong an emanation of the spirits which come out of them. The wind which blows, and is tossed to and fro, is no other than a great river of the like Atoms, drawn out of some solid bodies, which are upon the earth, and so are bandied here and there, according as they find cause for that effect.

I remember to have once sensibly seen how the Wind is ingendred: I passed over Mount *Cenis* to go for *Italy*, towards the beginning of Summer, and I was advanced to half the hill, as the Sun did rise cleer and luminous, but before I could see his body, because the Mountains interposed, I observed his rays, which did gild the top of the Mountain *Ves-*
se, which is the Pyramid of a Rock, a good deal higher than Mount *Cenis*, and all the neighbouring Mountains. Many are of opinion, that it is the highest Mountain in the
 World,

World, after the *Pic of Teneriff* in the grand *Canary*; and this Mount *Viso* is always covered with snow, I observed then, that about that place, which was illuminated by the Solar rays, there was a fog, which at first was of no greater extent than an ordinary bowl, but by degrees it grew greater, that at last not onely the top of that Mountain, but all the neighbouring Hills were canopied all over with a cloud. I was now come to the top of Mount *Cenis*, and finding my self in the streight line which passeth from the Sun to Mount *Viso*, I stayed awhile to behold it, while my people were coming up the hill behind, for having more men to carry my Chair than they had, I was there sooner. It was not long that I might perceive the said fog descend gently to the place where I was, and I begin to feel a freshnesse that came over my face, when I turned it that way. When all my troop was come about me, we went descending the other side of Mount *Cenis* towards *Suze*, and the lower

lower we went, we sensibly found that the wind began to blow hard behind our backs, for our way obliged us to go toward that side where the Sun was. We met with Passengers that were going up that way we went down; they told us that the wind was very impetuous below, and did much incommode them by blowing in their faces and eyes, but the higher they came, it was lesser and lesser: and touching our selves, when we came to the place where they said the wind blew so hard, we found a kind of storm, and it increased still the lower we went, untill the Sun being well advanced, drew no more by that line, but caused a wind in some other place. The people of that Countrey assured me that it was there always so, if some extraordinary and violent accident did not intervene and divert its ordinary course, which is, that upon a certain hour of the day the wind doth raise it self to a certain rumb, and when the Sun is come to another point, another wind riseth, and so from hand to hand it changes the
rumb

rumb till the Sun set, which always
 brings with it a calm, if the weather
 be fair, and that the wind always
 comes directly from the Mount *Viso*,
 opposite to the Sun. They told us al-
 so, that the daily wind is commonly
 stronger towards the bottom of the
 Mountain, than towards the top;
 whereof the reason is evident, for the
 natural motion of every body natural
 doth increase always in swiftness ac-
 cording as it moves forward to its
 centre, and that in an odde number,
 (as *Galileo* hath ingeniously demon-
 strated, I did it also in another Trea-
 tise) that is to say, that it at the first
 moment it advanceth an ell, in the se-
 cond it advanceth three, in the third
 five, in the fourth seven, and so it con-
 tinueth to augment in the same man-
 ner; which proceeds from the density
 and figure of the descending body
 acting upon the cessibility of the me-
 dium. And these small bodies which
 cause the wind from Mount *Viso* are
 thick and terrestrial; for the snow be-
 ing composed of aquatical and earthly
 parts united by the cold, when the heat
 of

of the Solar beams doth disunite and separate them, the vilcous parts flie with them, while the terrestrial, being too heavy to flie upward, fall presently downward. This makes me remember a very remarkable thing, which befell me when I was with my Fleet in the Port of *Scanderon*, or *Alexandrette*, towards the bottom of the *Mediterranean* Sea: there they use to disimbarque, when they go to *Aleppo* or *Babylon*. I had done already what I had intended to do in those Seas, and happily compassed my design, so it imported me much to return to *England* as soon as possibly I could, and the rather, because my Ships were battered by a great Fight which I had had a little before against a formidable power; which, although I had obtained the better, yet in so furious a dispute my Fleet was in some disorder, and my Ships full of wounded men. To advise therefore of the most expedient road to come to some Harbour, where I might repair my Ships, and be in surety; I assembled
all

all my Captains, Pilots and Mariners, the most experienced of my Fleet ; and having propounded unto them my design, they were all of an unanimous opinion, that the surest course was towards the South ; and to coast upon *Syria*, *Judea*, *Egypt* and *Africa*, and render our selves at the Streight of *Gibraltar* ; and sailing so near the body of the Earth, we should have every night some small breezes of wind, whereby we should in a short time make our Voyage. And besides, we should not be in any great danger to meet either with *Spanish* or *French* Fleets ; for *England* was at that time in open war with both those Kings, and we had advice that they had great Fleets abroad, to vindicate some things we had done in prejudice of them both those sixteen moneths that we remained Master of those Seas ; therefore it concerned us to make towards some safe Fort, where we might both refresh our men, and repair our battered Vessels.

My opinion was clean contrary
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to theirs, for I believed our best way was to steer our course Westward, and to sail along the coasts of *Cilicia*, *Pamphylia*, *Lydia*, *Natolia*, or *Asia* the lesse, and to traverſe the mouth of the *Archipelago*, to leave the *Adriatick* Sea on the right hand, and paſs by *Sicily*, *Italy*, *Sardinia*, *Corſica*, the Gulph of *Lion*, and ſo coaſt all *Spain*; telling them thſt it would be a great diſhonour unto us to forſake our beſt road for fear of the enemy, being that our chief buſineſs thither was to find them out, and the protection which it had pleaſed God to afford us all along in ſo many combats in going, was cauſe to make us hope th. t the ſame Providence would vouchſafe to guide us as we ſhould be returning. That there was no doubt but that the road which I propoſed unto them, conſidered ſimply in it ſelf, was without compariſon the better, and the more expedite to ſail out of the *Mediterranean* Sea, and gain the *Ocean*; becauſe, ſaid I, that although we have the breezes from off the
earth

earth as long as we were upon the coasts of *Syria* and *Egypt*, we shall not have them at all while we sail upon the coasts of *Libya*, where there are those fearful Sands which they call the *Syrtes*, which are of a great extent, the said coast having no humidity, for there is neither tree nor herb grows there, there being nought else but moving sands, which covered and buried heretofore at one glut the puissant Army of King *Cambyses*. Now where there is no humidity, the Sun cannot attract to make a wind, so that we shall never find there, specially in Sommer-time, any other wind but that regular wind which blows from East to West, according to the course of the Sun, who is the Father of winds, unlesse some extraordinary wind happen, either from the coast of *Italy*; which lies Northward, or from the bottom of *Aethiopia*, where the mountains of the Moon are, and the source of the Cataracts of *Nile*: therefore if we were near the *Syrtes*, the winds of *Italy* would be most dangerous unto

us,

us, and expose us to shipwreck. I reasoned so, according to natural causes, while they of my Council of War kept themselves firm to their experience; which was the cause that I would do nothing against the unanimous sense of all; for although the disposing and resolution of all things depended absolutely upon my self, yet I thought I might be justly accused of rashnesse or wilfulnesse, if I should prefer my own advice before that of all the rest: so we took that course, and went happily as far as the *Syries* of *Libya*; but there our Land-breezes failed us, and for seven and thirty days we had no other but a few gentle Zephyrs, which came from the West, whither we were steering our course. We were constrained to keep at anchor all that time, with a great deal of apprehension of fear that the wind might come from the North, accompanied with a tempest; for if that had happened, we had been all lost, because our anchors had not been able to hold among those moving sands,

sands, for under water they are of the same nature as they are upon dry land, and so we might be in danger to be shipwreck'd upon that Coast. But God Almighty, who hath been pleased I should have the honour to wait upon you this day, did deliver me from that danger. And at the end of seven and thirty days we observed the course of the Clouds very high, which came from South-east, at first but slowly, but by degrees faster and faster ; insomuch that in the compasse of two days the Wind, which was forming it self a great way off in *Aethiopia*, came in a tempest to the place where we rid at anchor, and led us to the place whither we intended to go ; but the force of it was broken before, coming so long a distance.

Out of this discourse we must infer and conclude, that everywhere, wheresoever there is any wind, there be also some small bodies or Atoms, which are drawn from the bodies which lie in those places, whence the wind comes, by the virtue of the Sun,
and

and of the Light, and that in effect this wind is nothing else but the said Atoms agitated and thrust on from any side with impetuosity ; and so the winds do partake of the qualities of the place from whence they come : as for example, if they come from the South they are hot; if from the North they are cold; if from the Earth alone, they are dry ; if from the Marine or Sea-side, they are humid and moist ; if from places which produce aromatical substances, they are odoriferous, wholsom and pleasing ; as they say those which come from *Arabia Félix*, which produceth Spices, Perfumes and Gummes of sweet savour; and this which comes from *Foumenay* and *Vau-girard* to *Paris*, in the season of Roses are all perfumed : on the contrary, those winds that come from stinking places, as from the sulphureous soil of *Pozzuolo*, do smell ill ; and those that come from infected places, bring the contagion along with them.

My third Principle shall be, that the Air is full throughout with small bodies or atoms, or rather that
which

which we call our Air, is no other than a mixture or confusion of such Atoms, wherein the aerial parts do predominate.

It is well known, that in Nature there cannot be actually found any pure Element, without being blended with others ; for the outward fire and the light acting one way, and the internal fire of every body pushing on another way, causeth this marvellous mixture of all things in all things. In that huge extent, wherein we place the Air, there is sufficient space and liberty in which to make such mixture, which Experience as well as Reason doth confirm. I have seen little Vipers, as soon as they came out of the eggs wherein they were ingendered, being not an inch long, having been kept in a large Cucurbite, covered with paper tied round about, that they might not get out, and little holes made with pins, that the air might enter, increase in substance and bignesse so prodigiously in six, eight, or ten months,

moneths, that it is incredible, and more sensibly, during the season of the Equinoxes, than when the air is fuller of those ethereal and balsamical atoms which gave them their balsamick virtue, which they drew for their nouriture.

Hence it came that the *Cosmopolite* had reason to say, *Est in aere occultus vita cibus*; There is a hidden food of life in the air. These small Vipers had but the air onely for their sustenance, nevertheless by this thin vi- and they came in less than a year to a foot long, and proportionably big and heavy. Vitriol, Salt-peter, and some other substances, do augment in the same manner, onely by attraction of air.

I remember that upon some occasion, seventeen or eighteen years ago, I had occasion to use a pound of Oil of Tartar; it was at *Paris*, where I had then no Operatory. Then I desired Monsieur *Ferrier*, a man universally known by all such that are curious, to make me some, for he had none then ready made,
but

but did in expressly for me, and for the Calcination of Tartar, twenty pound may be as easily made as two, without increase of charge; therefore he took occasion hereby to make a quantity for his own use. When he brought it me, the Oil did smell so strong of the Rose, that I complained that he should mingle it with that water, in regard I had desired him to do it purely, by exposing it to the humid air; for I verily thought that he had dissolved the salt of Tartar in Rose-water. He swore unto me that he had not mingled it with any liquor, but that he had left the Tartar calcined within his Cellar, to dissolve of it self. It was then in the season of Roses, therefore it seems that the air being then full of the atoms which come from the Roses; and being changed into water by the powerful attraction of the salt of Tartar, their smell became very sensible in the place where they were gathered; as the beams of the Sun do burn being crouded together in a Burning-glass.

There

There happened also another marvellous thing touching this Oil of Tartar, which may serve to prove a Proposition which we have not yet touched : but not to interrupt the course of the story ; I will tell it you by way of Advance. It was, that as the season of Roses was passed, the smell of the Roses did vanish away from the said Oil of Tartar, so that in three or four moneths it was quite gone. But we were much surprised, when the next year the said odour of Roses returned as strong as ever it did, and so went away again towards Winter ; which course it still observes. Which made Monsieur Ferrier to keep it as a singular rarity, and the last Sommer I found the effect of it in his house.

We have in *London* an unlucky and troublesom confirmation of this Doctrine, for the Air useth to be full of such Atoms. The material whereof they make fire in that great City is commonly of Pit-coal, which is brought from *Newcastle* or *Scotland* ; this Coal hath in it a great quantity

quantity of volatil salt very sharp, which being carried on by the smoke doth dissipate it self, and fill the air, wherewith it doth so incorporate, that although we do not see it, yet we find the effects, for it spoils beds, tapistries, and all other household-stuff that is of any beautiful fair colour, for the fuliginous air doth tarnish it by degrees : and although one should lock up his chamber, and come not thither a good while, and keep it never so clean, yet at his return he will find a black kind of thin soot cover all his household-stuff ; (as we see in Mills, there is a white dust, as also in Bakers shops) the same gets into Coffers, and is very plainly seen upon Linen or Paper, and upon such white things as are coffered up; also Bands & Cuffs are foul'd more in one day, than in ten in the champain out of the reach of that smoke. And in the City, in the Spring-time when the trees blossom, all the white flowers are sullied with a sooty blackness. Now in regard that it is this air which the lungs of all the inhabitants draw for refreshment, therefore the

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flegm and spittle which comes from them is commonly blackish and fuliginous. Moreover, the acrimony of this snot produceth another most dismal effect, for it makes the people subject to Inflammations, and by degrees to Ulcerations in the Lungs. It is so corrosive and biting, that if one put Gammons of Bacon, or Beef, or any other flesh within the Chimney, it so dries it up, that it spoils it. Wherefore they who have weak Lungs quickly feel it; whence it comes to pass, that almost the one half of them who die in *London*, die of phthisical and pulmonical distempers, spitting commonly blood from their ulcerated Lungs. But at the beginning of this malady the remedy is very easie; it is but to send them to a place where the air is good: many do usually come to *Paris*, who have means to pay the charge of such a journey, and they commonly use to recover their perfect healths. The same inconveniences are also, though the operations be not so strong, in the City of *Liege*, where the common people

people burn no other than Pit-coals, which they call *Hoville*. *Paris* her self also, although the circumambient air be passing good, is yet subject to incommodities of that nature. The excessively stinking dirt and chanel of that vast City mingleth a great deal of ill allay with the purity of the air, stuffing it every where with corrupted atoms, which yet are not so pernicious as those of *London*. We find that the most neat and polished silver Plate, exposed to the air, becomes in a short time livid and foul, which proceeds from no other cause than from those black Atoms, (the true colour of Putrefaction) which stick unto them. And the more polish'd and bright the metall is, the more visible are they. I know a Person of Quality, (and a singular friend of mine) who is lodged in a place, where on the one side a great many poor people do inhabit, where few Carts use to passe, and fewer Coaches: his neighbours behind his house empty their filth and ordure in the middle of the

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street,

street, which useth hereby to be full of mounts of filth, which use to be carried away by Tombrels; when they remove these ordures, you cannot imagine what a stench and kind of infectious air is smeit thereabout every where. The servants of my said friend, when this happens, use to cover their Plate, and Andirons of polished Brasse, and other of their fairest household-stuff, with Cotten or coarse Bays, otherwise they would be all tarnished; yet nothing hereof is seen within the air: though these experiences do manifestly convince that the air is stuffed with such atoms. I cannot omit to adde hereunto another Experiment, which is, that we find by the effects how the rays of the Moon are cold and moist. It is without controversie that the luminous parts of those rays come from the Sun, the Moon having no light at all within her, as her Eclipses bear witness, which happen when the Earth is opposite 'twixt her and the Sun; which interposition suffers her not
to

to have light from his rays. The beams then which come from the Moon, are those of the Sun, which glancing upon her, reflect upon us, and so bring with them the atoms of that cold and humid star, which participates of the source whence they come : therefore if one should expose an hollow bason or glass to assemble them, one shall find that whereas those of the Sun do burn by such a conjuncture, these clean contrary do refresh and moisten in a notable manner, leaving an aquatick and viscous glutinous kind of sweat upon the glass. One would think it were a folly that one should offer to wash his hands in a well-polish'd silver-bason, wherein there is not a drop of water, yet this may be done by the reflection of the Moon-beams onely, which will afford a competent humidity to do it ; but they who have tried this have found their hands, after they are wiped, to be much moister than usually : but this is an infallible way to take away Warts from the hands if it be often used.

Let us then conclude out of these premises and experiments, that the air is full of Atoms, which are drawn from bodies by means of the light which reflects thereon, or which fall out by the interiour natural heat of those bodies which drive them forth. It may haply seem impossible that there can be an emanation of so many small bodies, that should be spread up and down the air, and be so carried up and down, and so far by a continual flux, (if I may say so) and yet the body whence they come receive no diminution that is perceptible, though sometimes 'tis visible enough, as by the evaporations of the spirits of Wine, Musk, and other such volatile substances. But this objection will be null, and the two precedent Principles will render themselves more credible, when we shall settle another, *viz.* That every body, be it never so little, is divisible *ad infinitum*, not that it hath infinite parts, for the contrary thereof may be demonstrated, but it is capable to
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be divided and subdivided into new parts, without ever coming to the end of the division. And it is in this sense that our Masters teach us that Quantity is infinitely divisible. This is evident to him who shall consider with a profound imagination the essence and the formal reason of Quantity, which is nothing else but Divisibility. But in regard that this speculation is very subtil and metaphysical, I will serve my self with some Geometrical Demonstrations to prove this truth, for they accommodate themselves best to the imagination. *Euclide* doth teach us in the tenth Proposition of his sixth Book, that if one take a short line, and another long one, and that the long be divided to divers equal parts 'twixt themselves, the little one may be divided also into as many equal parts among themselves, and every one of those parts also into others, and these last into so many more, and so on, without being able ever to come to that which is not divisible.

But lets suppose (although it be impossible) that one might divide and subdivide a line, so that at last we should come to an indivisible, and lets see what will come of it: I say then, that since the line doth resolve it self into indivisibles, she ought to be composed of them; lets see whether that may be verified. To which purpose I take three indivisibles, and to distinguish them let them be *A*, *B*, *C*; for if three millions of indivisibles make a long line, three indivisibles will make a short one. I put them then in a rank: First I put *A*, then *B* so near that they touch one another: I say that *B* must necessarily possesse the same place as *A*, or that it doth not possesse it; if it doth possesse the same place, they both together make no extension, and by the same reason neither 3 nor 3000 will do it, but all the indivisibles will unite together, and the result of all shall be but onely one indivisible. It must be then, that being not both in the same place, yet touching one another,

ther, one part of *B* must touch one part of *A*, and the other part toucheth it not. Then I adde the indivisible *C*, whereof one part shall touch a part of *B* which touches not *A*, and by this means *B* is copulant, lying between *A* and *C* to make the extension. To do this, you see that we must admit that *B* hath parts as the other two, which by your supposition are all indivisible; which being absurd, the supposition is impossible. But to render the matter yet more perspicuous, lets suppose that these three indivisibles make one extension, and compose one line; the proposition already cited from *Euclide* demonstrates that this line may be divided into thirty equal parts, or into as many as you please; insomuch that it must be granted, that every one of these three indivisibles may be divided into three parts, which is point-blank against the nature and definition of an indivisible. But without dividing into so many parts, *Euclide* shews by his tenth proposition of his first Element, that every line may be parted into two equal parts; but

this being composed of indivisibles of unequal number, it must necessarily follow, that being parted into two, there must be an indivisible more on the one side than on the other, or that that of the middle be parted into two halves: insomuch that he who denies that Quantity may not be divided *ad infinitum*, doth entangle himself in absurdities, and incomprehensible impossibilities. And on the contrary, he who assents unto it, will find it no impossibility, or inconvenient, that the Atoms of all bodies which are in the air may be divided, stretch'd and carried to a marvellous distance. Our very senses verifie it in some sort: there is no body in the world which we know so compact, so solid and weighty, as Gold; yet nevertheless unto what a strange extent and division may it be brought? Lets take an ounce of this masse metall, it shall be but a Button as big as my fingers end; a Beater of Gold will make a thousand Leaves or more of this ounce, one half of a Leaf shall

shall suffice to gild the whole surface of a Lingot of silver of three or four ounces: lets give this gilded Lingot of silver to them who prepare gold and silver thread to make Lace, and let them draw it to the greatest length and subtilty they can, let them draw it to the thinnesse of an hair, and so this thread may be a quarter of a league long in extent, if not more; and in all this length there will not be the space of an Atom which is not covered with gold. Behold a strange and marvellous dilatation of this half leaf: let us do the like to all the rest of the beaten gold, it will appear that by this means this small button of gold may be so extended, that it may reach from this City of *Montpellier* to *Paris*, and far beyond it: into how many million millions of atoms might not this gilded line be cut with small Cifers?

Now 'tis easie to comprehend that this extension and divisibility made by such grosse instruments as Hammers and Cifers, is not comparable to that which is made by the light and
rays

rays of the Sun. For it is certain, that if this gold may be drawn into such a great length by spindles or wheels of iron, some of these parts may easily be carried away by those winged Coursers we spoke of before, I mean, by the rays that flie in a moment from the Sun to the Earth.

If I did not think I should weary you by my prolixity, I could entertain you with the strange subtilty of little bodies which issue forth from living bodies, by means whereof our Dogs in *England* will pursue the sent of a mans steps, or of a beasts, many miles: and not onely so, but they will find in a great heap of stones that which a man hath touched with his hand: Therefore it must needs be, that upon the earth, or upon the stone, some material parts of the body remain which hath touched it, yet the body doth not sensibly diminish, no more than *Ambregreese*, and the *Spanish* Skins, which will send out of them an odour during an hundred years, without
any

any diminution of Skin or smell. In our Countrey they use to sow a whole Field with one sort of grain, to wit, one year with Barley, the next with Wheat, the third with Beans, and the fourth year they let it lie fallow to manure it, and that it may recover its vigour by attraction of the vital spirit it receives from the air, and so plow it up again after the same degrees. Now the year that the Field is covered with Beans the passengers by do use to sent at a good distance off, if the wind blow accordingly, the smell of the Beans, if they be in flower : It is a smell that hath a suavity with it, but fading, and at last is unpleasant and heady. But the smell of Rosemary, which comes from the coasts of *Spain* goes far further : I have sailed by Sea along those coasts divers times, and I have observed always that the Mariners know when they are within thirty or forty leagues of the Continent, (I do not exactly remember the distance) and they have this knowledge from the smell of the Rosemary, which

which so abounds in the fields of *Spain*, I have smelt it as sensibly as if I had had a branch of *Rosemary* in my hand ; and this was a day or two before we could discover Land : 'tis true, the wind was in our faces, and came from the shore. Some Naturalists write that Vultures have come two or three hundred leagues off, by the smell of carrions and dead bodies left in the field after some bloody battel ; and it was known that these birds came from afar off, because there was none used to breed nearer : they have a quick smelling, and it must be that the rotten Atoms of those dead carcases were transported by the air so far, and those birds having once caught the scent, they pursue it to the very source, and the nearer they come to it, the stronger it is.

We will conclude here that which we had to say touching the great extent of those little bodies, which by the mediation of the Sun-beams and of the Light, use to issue forth out of all bodies that are composed
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of the four Elements, which throng the air, and are carried a marvellous distance from the place, and from the bodies whence they have their origin and source; the proof and explication of which things hath been the aim of my discourse hitherto.

Now, my Lords, I must, if you please, make you see how these small bodies, that so fill and compose the air, are oftentimes drawn to a road altogether differing from that which their universal causes should make them hold; and that shall be our fifth Principle.

One may remark within the course and œconomy of Nature, sundry sorts of Attractions; as that of Suction, or sucking, whereby I have seen a ball of Lead at the bottom of a long spindle exactly wrought, follow the air which one sucked out of the mouth of a Cannon, with that impetuosity and strength that it broke his teeth. The attraction of water or wine that is done by the instrument Scypho is like to this; for by means of that one liquor is
made

made to passe from one vessel into another, without changing any way the colour, or rising of the lees. There is another sort of attraction, which is called Magnetical, whereby the Loadstone draws the Iron. Another Electrick, whereby the Jetstone draws unto it straws. There is another of the Flame, when the smoke of a candle put out draws the flame of that which burns hard by, and makes it descend to light that which is out. There is another of *Filtration*, whereby a humid body mounts upon a dry body, or when the contrary is done. Lastly, when the Fire, or some hot body draws the Air, and that which is mixed therewith.

We will treat onely here of the two last species of attraction, I have sufficiently spoken of the rest in another place. *Filtration* may seem to him who hath not attentively considered it, nor examined by what circumstances so hidden a secret of nature comes to passe, and to a person of a mean and limited understanding,

to be done by some occult virtue or property, and will perswade himself that within the Filtre, or straining Instrument, there is some secret sympathy, which makes water to mount up contrary to its natural motion.

But he who will examine the business as it ought to be, observing all that is done, without omitting any circumstance, will find there is nothing more natural, and that it is impossible it should be otherwise. And we must make the same judgment of all the profound and most hidden mysteries of Nature, if one would take the pains to discover them, and search into them with judgment.

Behold then how *Filtration* is made, they use to put a long tongue of cloth, or cotten, or spongy matter, within an earthen pot of water, or other liquor, letting hang upon the brim of the pot a good part of the cloth, and one shall see the water presently mount up, and passe above the brink of the vessel, and

and drop at the lower end of the piece of cloth, upon the ground, or into a vessel set under : and the Gardeners use this way to water their plants and flowers in Summer by degrees. As also the Apothecaries and Chymists, to separate their liquors from their dregs and residues.

To comprehend the reason why the water ascends in this manner, let us nearly observe all that is done. That part of the cloth which is within the water becomes wetted, to wit, it receives and imbibes the water through its parts that were at first spongy and dry. This cloth swells in receiving the water, for two bodies joyned together require more room than one of them would by it self. Let us consider this swelling, and augmented extension in the last thread of them which touch the water, *viz.* in that on the superficies, which must be distinguished from the rest, and marked at the two ends (as a Line) with *AB*, and the thread which immediately follows,

follows, and is above it, must be *CD*, and the following *EF*, then with *GH*, and so to the end of the tongue : I say then that the thread *AB* dilating it self, and swelling by means of the water which enters 'twixt its fibres or strings, approacheth by little and little to *CD*, which is yet dry, because it toucheth not the water ; but when *AB* is grown so grosse and swelling, by reason of the water which enters, that it fills all the vacuity, and all the distance which lies 'twixt it and *CD*, as also that it presseth against *CD* by reason of its extension, which is greater than the space was betwixt them both, then it wets *CD*, because the thread *AB* being compressed, the exterior part of the water which was in it, coming to be pushed on upon *CD*, seeks there a place, and entereth within the threads, and wets them, in the same manner as at first the exterior and highest part became wet. *CD* being so wetted, it shall dilate it self as *AB* did, and consequently pressing against

gainst *EF*, it cannot chuse but work the same effect in it, which before it had received by the swelling and dilatation of *AB*, and so by gentle degrees every thread wets its neighbour, untill the very last thread of the tongue of cloth. And it is not to be feared that the continuity of the water will break, ascending this scale of cords, or that it will recoil backwards; for those little ladders, so easie to be mounted, render the ascent the more easie, and the woolly fibres of every thread seem to reach their hands to help them up at every pace; and so the facility of getting upwards, together with the fluidnesse of the water, and the nature or quantity, which tends always to the uniting of substances, and of bodies which it clothes, when there occurs no other predominant cause to break and divide it, causeth that the water keeps it self in one piece, and passeth above the brink of the pot. After that its voyage is made more easie, for it goes after its natural inclination, always downwards.

wards. And if the end of the cloth hangs lower without the pot, than the surface of the water within the pot, the water spills on the earth, or on some vessel placed beneath, as we see that a heavier cord being hung upon a Pulley, the longest and heaviest falls upon the ground, and carrieth away the shortest and lightest, making it passe above the Pulley. But if the outward end of the cloth which is without the pot were horizontal with the surface of the water, and did hang no lower than it, the water would be immovable: as the two sides of a Balance, when there is equal weight in both the scales. And if one would pour out the water that is in the pot, in such sort that the superficies did grow lower than the end of the cloth; in that case the ascending water becoming more heavy than the descendent on the other side without the pot, would call back that which was gone out before, and was ready to fall, and would make it thrust on, and return to its former pace, and
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enter again into the pot, to mingle again with the water which lies therein.

You see then all this mystery, which at first was so surprizing, displayed and made as familiar and natural, as to see a stone fall down from the air. 'Tis true, that to make a demonstration thereof by an exact and complete rigour, we must adde other circumstances, which we have done at length in another Discourse, wherein I have expressly treated of this subject. But that which I now say is sufficient upon this occasion to give a tincture how this so notable an attraction is made.

The other attraction which is made by fire, and draws unto it the ambient air, with the small bodies therein, is done thus.

The Fire acting according to its own nature, (which is to push on a continual river, or exhalation of its parts, from the centre to the circumference, and out of its source) carrieth away with it the air which is adjoyned, and sticking to it on all sides, as the water of a river draws
along

along with it the earth of that channel or bed through which it glides. For the air being humid, and the fire dry, they cannot do lesse than embrace and hug one another. But there must a new air come from the places circumjacent, to fill the room of that which is carried away by the fire, otherwise there would a Vacuity happen, which Nature abhors. This new air remains not long in the place which it comes to fill, but the fire, which is in a continual career, and emanation of its parts, carries it presently with him, and draws the new air, and so there is a perpetual and constant current of the air, as long as the action of fire continues. We daily see the experience hereof; for if one makes a good fire in ones Chamber, it draws the air from the door and windows, which though one would shut, yet there be crevices and holes for the air to enter, and coming near them, one shall hear a kind of whistling noise, which the air makes in pressing to enter, and 'tis the same cause that produceth

ceth the sound of the Organ and Flute ; and he who would stand between the crevices and the fire, he should find such an impetuosity of that artificial wind , that he would be ready to freeze, while he is ready to burn the other side next the fire. And a candle of wax being held in this current of the wind would melt by her flame blown against the wax, and waste away in a very short time : whereas if that candle stood in a calm place, that her flame might burn upward, it would last much longer. But if there be no passage whereby the air may enter into the Chamber, the one part then of the vapour of the wood which should have converted to flame , and so mounted up the funnel of the chimney, descends downward against its nature, for to supply the defect of air within the said Chamber , and fills it with smoke, but at last the fire choaks and extinguisheth for want of air. Whence it comes to passe that the Chymists have reason to say, that the air is the life of the fire, as well

well as other animals. But if one puts a bason, or vessel of water before the fire upon the hearth, there will be no smoak in the Chamber, although it be so close shut that the air cannot enter, for the fire attracts part of the water, which is a liquid substance, and easie to move out of its place, which aquatick parts rarifie themselves into air, and thereby perform the functions of the air. This is more evidently seen if the Chamber be little, for then the air which is there penned in, is sooner raised up, and carried away. And by reason of this attraction, they use to make great fires, where there is household-stuff of men that died of the Pestilence, to disinfect them. For by this inundation of aire which is drawn, the fire doth as it were sweep the walls, the planks, with other places of the Chamber, and takes away those little putrified, sharp, corrosive, and venemous bodies, which were the infections that adhered unto it, drawing them into the fire, where they are partly burnt,

and partly sent up into the chimney, accompanied with the atoms of the fire and the smoke. It is for this reason that the great *Hippocrates*, who dived so far into the secrets of Nature, disinfects and freed from the Plague a whole Province or entire Region, by causing them to make great fires everywhere.

Now this manner of attraction is made, not onely by a simple fire, but by that which partakes of it, viz. by hot substances : and that which is the reason and cause of the one, is also the cause of the other. For the spirits, or ignited parts evaporating from such a substance or hot body, carry away with them the adjacent air, which ought necessarily to be nourished by some other air, or by some matter which keeps the place of the air, as we have spoken of the Bason, or Tub of water set by the fire to hinder smoking. It is upon this foundation that Physicians do ordain the hot application of Pigeons or young Dogs, or some other hot animals, to
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the soles of the feet, or the wrists, or the stomachs, or navils of their Patients, to extract out of their bodies the wind or ill vapours which infect them; and in time of Contagion or universal infection of the air, Pigeons, Cats, Dogs, with other hot animals, use to be killed, which make continually a great transpiration or evaporation of spirits, because the air by the attraction it makes, taking the room of the spirits, which issue forth in this evaporation, the pestiferous atoms which are scattered in the air, and accompany it, use to stick to their feathers, skins or furies.

And for the same reason we see that bread coming hot from the Oven, draws unto it the must of the cask, which spoils the wine, if they put it hot upon the bung. And that Onions, and such hot bodies which perpetually exhale their fiery parts, which appears by the strength of their smell, are quickly taken with infectious airs, if they be exposed unto them, which is one of the

signs to know whether the whole mass of the air be universally infected.

And one might reduce to this head the great attraction of air, which is made by Calcin'd bodies, and particularly by Tartar, all ignited by the extreme action of fire upon it, which is amassed and embodied among its salt: for I have observed that it attracts unto it nine times more air than it weighs it self. For if one should expose to the air a pound of salt of Tartar well calcin'd and burnt, it will afford you ten pound of good Oil of Tartar, drawing unto it, and so incorporating the circumjacent air, and that wherewith 'tis mingled; as it befell that Oil of Tartar which Monsieur *Ferrier* made me, whereof I spake before. But methinks that all this is but little, compared to the attraction of air, which was made by the body of a certain Nunn at *Rome*, whereof *Petrus Servius, Urban* the Eighth's Physician, makes mention in a book which he hath published, touching the
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marvellous accidents which he observed in his time. Had I not such an Author, I durst not produce this history, although the Nunne herself did confirm it unto me, and that a good number of Doctors of the faculty of Physick at *Rome*, did assure me of the truth thereof: There was a Nunne, that by excess of Fastings, Watchings, and mental Prayers, was so heated in her body, that she seemed to be all on fire, and her bones dried up, and calcin'd: this heat then, this internal fire, drawing the air so powerfully; this air did incorporate within her body, as it useth to do in salt of Tartar, and the passages being all open, it got to those parts where there is most serosity, which is the Bladder, and thence she rendered it in water among her urine, and that in an incredible quantity; for she voided during some weeks more than two hundred pounds of water every four and twenty hours. With this notable example I will put an end to the Experiments I have ur-

ged to prove and explicate the attraction which is made of air, by hot and ignited bodies, which are of the nature of fire.

My sixth Principle shall be, that when Fire or some hot body attracts the air, and that which is within the air, if it happens that within that air there be found some dispersed atoms of the same nature with the body which draws them, the attraction of such atoms is made more powerfully than if they were bodies of a different nature, and these atoms do stay, stick, and mingle with more willingness with the body which draws them. The reason hereof is the resemblance and sympathy they have one with the other. If I should not explicate wherein this resemblance consisted, I should expose my self to the same censure and blame, as that which I taxed at the beginning of my Discourse, touching those who speak but lightly and vulgarly of the Powder of Sympathy, and such marvels of Nature. But when I shall have

have cleared that which I contend for by such a resemblance and conveniency, I hope then you will rest satisfied. I could make you see that there are many sorts of resemblances which cause an union between bodies, but I will content my self to declare here onely three signal ones.

The first resemblance shall be touching weight, whereby bodies of the same degree of heaviness do assemble together, the reason whereof is evident, for if one body were more light, it would possess an higher situation than the heavier body, as on the contrary, if a body were more weighty, it would descend lower than that which is less heavy, but both having the same degree of heaviness, they keep company together in *aquilibriv*, as one may see by experience in this pretty example, which some curious spirits use to produce, for to make us understand how the four Elements are situated one above the other, according to their weight and heaviness. They

use to put in a Vial the spirit of Wine tinctur'd with red, to represent the fire ; the spirit of Turpentine tinctured with blew, for the air ; the spirit of water tinctured with green, to represent the Element of Water ; and to represent the Earth, the powder of some solid metall enamell'd : you see them one upon the other without mixing, and if you shake them together by a violent agitation, you shall see a Chaos, such a confusion, that it will seem there's no particular atomes that belong to any of those bodies, they are so hudled pell-mell together. But when this agitation is ceased, you shall see presently every one of these four substances go to its natural place, calling again, and labouring to unite all their atoms in one distinct masse, that you shall see no mixture at all.

The second resemblance of bodies which draw one another, and unite, is among them which are of the same degree of rarity and density. The nature and effect of Quantity is,

is to reduce to unity all things which it finds, if there interpose not some other stronger power; (as the differing substantial forms, which multiply it) do not hinder. And the reason of that is evident, for the essence of Quantity is a divisibility, or capacity to be divided, which is as much as to say, as to make it many; whence it may be inferred, that Quantity it self is not many, therefore she is of her self, and in her own nature, a continued extension. Seeing then that the nature of Quantity in general tends to unity, and continuity, the first differences of Quantity, which are rarity and density, must produce the same effect of unity and continuity in those bodies which convene in the same degree with them. For proof whereof, we find that water doth unite and incorporate it self strongly and easily with water, oil with oil, the spirit of wine with spirit of wine; and water and oil can hardly unite, nor Mercury with the spirit of wine, and other bodies of differing density and tenuity.

The third resemblance of bodies which unite and keep themselves strongly together, is that of Figure : I will not serve my self here with the ingenious conceit of a great Personage, who holds that the continuity of bodies results from some small hookings or claspings, which keep them together, and are differing in bodies of a differing nature. But not to extend my self too diffusively in every particularity, I will say in gross, as an apparent thing, that every kind of body affects a particular figure. We see it plainly in the several sorts of salt, beat them in a Mortar severally, dissolve, coagulate, and change them as long as you please, they come again always to their own natural figure, after every dissolution and coagulation. The ordinary salt doth form it self always into Cubes of four-square faces, salt of *Nitre* into pillars of six faces, *Armoniac* salt into *Hexagons* of six points, as the snow doth, which is sexangular ; salt of Urine into *Pentagones*, whereunto Mr. *Davison* attributes the pentagonary figure

gure of every one of those stones which were found in the bladder of *Monsieur Pellerier*, to the number of fourscore ; for the same immediate efficient cause, which is the bladder, had imprinted its action both upon the stones, and the salt of the Urine. The distillators observe, that if they pour upon the dead head of some distillation, the water which was distilled, it imbibes it, and re-unites incontinently, whereas if one would pour any other water of an heterogeneous body, it swims on the top, and incorporates with much difficulty. The reason is, that the distill'd water which seems to be an homogeneous body, although it is composed of small bodies of discrepant figures, as the *Chymists* do plainly demonstrate, and these atoms being chased by the action of fire, out of their own chambers, or beds, which were appropriated unto them by an exact justnesse, when they come back to their ancient habitations, *viz.* to the pores which are left in the dead heads, they accommo-

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date themselves, and amiably rejoyne and become commensurate together. The same happens when it rains after a long drought; for the earth immediately drinks up the water, which had been drawn up by the Sun, whereas any other strange liquor would enter with some difficulty. Now, that there are differing pores in bodies which seem to be homogeneous, *Monsieur Gassendus* affirms it, and undertakes to prove it by the dissolution of salts of differing natures in common water, and sayes he to this effect, that when you have dissolved common salt, as much as it can bear, if you put only a scruple more, it will leave it entire in the bottom, as if it were sand, or plaister; neverthelesse, it will dissolve a good quantity of salt of Nitre, and though it will touch no more of this salt, it will dissolve as much of Armoniackal salt, and so others of different figures. Insomuch as I have observed elsewhere, we see plainly by the œconomy of nature, that bodies of the same figure use to mingle more strongly.

strongly, and unite themselves with more facility, which is the reason why those that make a strong glue to glue together broken pots of Porcelain, or Crystal, or such stuff, do always mingle with the glue the powder of that body which they endeavour to reunite : And the Goldsmiths themselves, when they go about to solder together pieces of gold, or of silver, they mingle those bodies always in their own dust.

Having hitherto run through the reasons and causes why bodies of the same nature draw one to another with greater facility and force than others, and why they unite with more promptitude, lets now see, according to our method, how experience confirms this discourse, for in natural things we must have our last recourse to experience. And all reasoning that is not supported so, ought to be repudiated, or at least suspected to be illegitimate.

'Tis an ordinary thing, when one finds

finds himself burnt as in the hand, he holds it a good while as near the fire as he can, and by this means the ignited atomes of the fire, and of the hand mingling together, and drawing one another, and the stronger of the two, which are those of the fire, having the mastery, the hand finds it self much eased of the inflammation which it suffered. Tis an ordinary remedy, though a nasty one, that they who have ill breaths hold their mouths open at the mouth of a Privy, as long as they can, and by the reiteration of this remedy, they find themselves cured at last, the greater stink of the Privy drawing unto it, and carrying away the lesse, which is that of the mouth. They who have been pricked, or bit by a Viper, or Scorpion, hold over the bitten, or pricked place, the head of a Viper or Scorpion bruised, and by this means the poyson, by a kind of filtration, going on to gaine the heart of the party, returns back to its principles, and so leaves the party well recovered. In time of
common

common Contagion, they use to carry about them the powder of a Toad, and sometimes a living Toad or Spider shut up in a box; or else they carry Arsenick, or some other venomous substance, which draws unto it the contagious air, which otherwise would infect the party: and the same powder of a Toad draws unto it the poison of a Plague-soar. The Farcey is a venemous and contagious humour within the body of an Horse; hang a Toad about the neck of the Horse in a little bag, and he will be cured infallibly; the Toad, which is the stronger poison, drawing to it the venom which was within the Horse. Make water to evaporate out of a stove, or other room close shut, if there be nothing that draws this vapour, it will stick to the walls of the stove, and as it cools, it recondenseth there into water: but if you put a bason or bucket full of water into any part of the stove, it will attract all the vapour which filled the chamber, and so doing, no part of the wall will be wetted.

wetted. If you dissolve Mercury, which resolving into smoke, doth pass into the Recipient, put into the head of the Alembick a little thereof, and all the Mercury in the Alembick will gather there, and nothing will pass into the Recipient. If you distill the spirit of Salt, or of Vitriol, or the balsam of Sulphur, and leaving the passage free betwixt the spirit and the dead head whence it issued forth, the spirits will return to the dead head; which being fixed, and not able to mount up, draws them unto it.

In our Countrey, and I think 'tis so used here, they use to make provision for all the year of Venison-pasties, at the season that their flesh is best and most savoury, which is in *July* and *August*; they bake it in earthen pots or Rye-crust, after they have well seasoned it with salt and spices, and being cold, they cover it six fingers deep with fresh butter, that the air may not enter. Nevertheless 'tis observed, after all the diligence that one can make, that when the living
beasts

beasts which are of the same nature and kind, are in Rut, the flesh which is in the pot smells very rank, and very much changed, having a stronger taste, because of the spirits which come at this season from the living beasts, which spirits are attracted naturally by the dead flesh ; and then one hath much ado to preserve it from being quite spoiled : but the said season being passed, there is no danger or difficulty to keep it all the year after.

The wine-merchants observe in this Countrey, and every where else where there is wine, that during the season that the Vines are in flower, the wine which is in the Cellar makes a kind of fermentation, and pusheth forth a little white Lee, (which I think they call the mother of the wine) upon the surface of of the wine, which continueth in a kind of disorder, until the flowers of the Vines be fallen, and then this agitation or fermentation being ceased, all the wine returns to the same state it was in before.

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Nor is it lately that this observation hath been made, but besides divers others who speak hereof, St. Ephrem the Syrian in his last Will and Testament, some 1300 years ago, reports this very same circumstance of wine, which sensibly suffers an agitation and fermentation within the vessel the same time that the Vines seem to exhale their spirits in the Vineyards. He makes use of the same example in dry Onions, which bud in the house when those in the garden begin to come out of the earth, and to embalm the air with their spirits; shewing thereby, by these known examples of Nature, the communication between living persons and the souls of the dead. Now those winy spirits that issue from the buds and flowers, filling the air, (as the spirits of Rosemary use to do in *Spain*) are drawn into the vessels by the connatural and attractive virtue of the wine within: and these new volatil spirits entring, do excite the more fixed spirits of the wine, and so cause a fermentation; as if one should pour therein new or sweet wine; for

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in all fermentations there is a separation made of the terrestrial parts from the oily, which come out of the essential parts, and so the lightest mount up to the superficies, the heaviest become Tartarous Lees, which fall to the bottom. But in this season, if one be not very careful to keep the wine in a proper and temperate place, and keep the Cask full, and well bung'd, and use other endeavours, which are ordinary with Wine-coupers, one runs a hazard to have his wine impaired or quite spoiled, because that the volatil spirits coming to evaporate themselves, they carry away with them the spirits of the wine that is bared, by exciting them, and mingling with them. As in like manner the Oil of Tartar, which Monsieur *Ferrier* made, attracting to it self the volatil spirits of Roses, diffused in the air in their season, suffered such a fermentation, and made every year new attractions of the like spirits, in regard of the affinity which this oil had contracted with those spirits at its first birth,

birth, whereof it was deprived at the season passed. And 'tis for the very same reason that a Table-cloth or Napkin, spotted with Mulberries or red wine, is easily whitened again at the season that the plants do flower; whereas at any other time these spots can hardly be washed away. But 'tis not onely in *France* and other places, where Vines are near Cellars of wine, that this fermentation happens; in *England*, where we have not Vines enough to make wine, the same thing is observed, yea and some particularities besides. Although they make no wine in our Countrey to any considerable proportion, yet we have wine there in great abundance, which is brought over by the Merchants: it useth to come principally from three places, *viz.* from the *Canaries*, from *Spain*, and from *Gascony*. Now these Regions being under different Degrees and Climates in point of Latitude, and consequently one Countrey is hotter or colder than the other; or that some Vegetals grow to

maturity sooner, it comes to passe that the aforesaid fermentation of our differing wines advanceth it self more or less, according as the Vines whence they proceed do bud and flower in the Region where they grow : it being consentaneous to reason, that every sort of wine attracts more willingly the spirits of those Vines whence they come, than of any other.

I cannot forbear but I must make some digression here, to unfold some other effects of Nature, which we see often, and are not less curious than the most principal which we treat of, and will seem to be derived from more obscure causes, notwithstanding in many circumstances they depend on the same principles, and in many much differing. It is touching moles or marks which happen to Infants, when their mothers, during the time of their pregnancy, have longed after some particular things. To proceed after my accustomed manner, I will fall to exemplifie. A Lady of high condition, which many of
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this Assembly know, at least by reputation, hath upon her neck the figure of a Mulberry, as exactly as any Painter or Sculptor can possibly represent one, for it bears not onely the colour, but the just proportion of a Mulberry, and is as it were embossed upon her flesh. The mother of this Lady being with child, she had a great mind to eat some Mulberries, and her imagination being satisfied, one of them casually fell upon her neck, the sanguine juice whereof was soon wiped off, and she felt nothing at that time. The child being born, the perfect figure of a Mulberry was seen upon her neck, in the same place where it fell upon the mothers; and every year in Mulberry-season this impression, or rather excrescence of flesh, did swell, grow big and itch.

Another Maid, which had the like mark of a Strawberry, was more incommodated therewith; for it not onely itched and was inflamed in Strawberry-season, but it broke like an Impostume, whence issued forth a sharp
corrosive

corrosive humour. But a skilful Surgeon took all away to the very roots, by cauterizing ; so that since that time she never felt any pain or change in that place which did incommode her so much, it being become a simple scar.

Now then lets endeavour to penetrate, if we can, the causes and reasons of these marvellous effects. But to go the more handsomly to work, that within the actions of all our senses there is a material and corporal participation, viz. that some atoms of the body operate upon the senses, enter into their organs, which serve them as funnels to conduct and carry them to the brain, and to the imagination. This appears evidently in vapours and savours. And concerning the hearing, the exterior air being agitated, doth cause a motion within the Membrane, or tympane of the ear, which gives the like shaking to the hammer which is tied thereunto, who beating upon his Anvil, causes a reciprocal motion in the air, which is shut within
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the crannies of the ear, and this is that which we usually call sound.

Touching the sight, tis evident that the Light reflecting upon the body, enters into the eyes, and cannot avoid, but it must bring with it some emanations of the body whereon it reflects, as we have established in the second Principle.

It remains now to shew that the like is made within the grossest of our senses, which is the Touch or Feeling: For if it be true, as we have shewn, that every body sends forth a continual emanation of atomes out of it self, it makes much for the assertion of this truth. But to render this truth yet more manifest, and take away all possibility of doubt, I will demonstrate it so evidently to the eye, that every one may make an experience thereof in a quarter of an hour, if he be so curious, yea in a lesse compass of time.

I believe you know the notable affinity which is betwixt gold and quick-

quick-silver; if Mercury toucheth gold it sticks close unto it, and whitenens it in such sort, that it scarce appeareth gold, but silver onely; if you cast this blanch'd gold into the fire, the heat chaceth, and drives away the Mercury, and the gold returns to its former colour; but if you do this oftner, the gold calcines, and then you may pound, and reduce it to powder.

Now there is no dissolvent in the VVorld that can well calcine, and burn the body of gold, but quick-silver. I speak of that which is already formed by Nature, without engaging my self to speak of that which is spoken of among the secrets of Philolophy. Take then a spoon-fal of Mercury in some porcelan, or other dish, and finger it with one hand, if you have a ring of gold on the other, it will become white, and covered with Mercury, though it doth not any way touch it. Moreover, if you put a leaf of gold, or a crown of gold in your mouth, and if you put but one of your toes in a
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thing where Mercury is, the gold
 which is in your mouth, though you
 shut up your lips never so close, shall
 turn white, and laden with Mercury :
 then if you put this gold into the
 fire to make the Mercury evaporate,
 and do reiterate the same thing,
 your gold will be calcined, as if
 you had by amalgamation joyned
 Mercury therewith corporally. And
 all this will yet be done more speedily
 and effectually, if in lieu of
 common Mercury, you make use
 of Mercury of Antimony, which is
 much hotter, and more penetrating,
 and though you drive it away by
 force of fire, it will carry away with
 it a good quantity of the substance
 of the gold ; in such sort, that re-
 iterating often this operation, there
 will no more gold remain for you to
 continue your experiments. If then
 that cold Mercury doth so penetrate
 the whole body, we ought not to
 think it strange, that subtile atomes
 of fruit composed of many ignited
 parts will pass with more facility
 and quickness. I will further make
 you

you see how such spirits and emanations do suddenly also penetrate steel, though it be a substance so compacted, cold and hard, that the said atoms may keep their residence there many moneths and years. Within a living body, such as is Man's, the intern spirits do aid and contribute much facility to the spirits that are without, such as those of fruits are, to make their journey the more easie to the brain. The great Architect of Nature in the fabric of humane body, the masterpiece of corporal nature, hath placed there some intern spirits, to serve as Centinels to bring their discoveries to their General, *viz.* to the Imagination, which is as it were the Mistress of the whole family, whereby a man may know and understand what is done without the Kingdom, within the great world; and that it may shun what is obnoxious, and seek after that which is profitable. For these Centinels, or intern spirits, with all the inhabitants of the sensitive organs, are not able

to judge alone: insomuch that if the imagination or thought be distracted strongly to some object, these intern spirits do not know whether a man hath drunk the wine which he hath swallowed, if perchance seeing a person who comes to salute him, he fixeth his eye upon him all the while, or if he listens attentively to the air of some melodious song, or musical instrument, for the inward spirits bring all their acquisitions to the imagination, and if she be not more strongly bent upon another object, she falls a forming certain Idæas and Images, because that the atoms from without being conveyed by these intern spirits to our imagination, erect there the like edifice, or else a model in short resembling the great body whence they come forth. And if our imagination hath no more use of thole significative atoms for the present, she rangeth them in some proper place within her magazine, which is the Memory; where she can repell and resume them when she
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pleaseth. And if there be any object which causeth some emotions in the imagination, and toucheth her more near than common objects use to do, she sends back her Centinels, the internal spirits, upon the confines to bring her more particular news. And thence it proceeds that a man being surpris'd by some particular man, or other object, who hath already some eminent place in his imagination, be it of desire or aversion, then that man suddenly changeth colour, and becomes red, then pale, then red again, at divers times, according as the ministers, which are those internal spirits, do go quick or slow towards their object, then they return with their reports to their mistress, which is the Imagination. But besides these passages we speak of, which go from the brain to the external parts of the body, by the ministry of the nerves, there is also a great road from the brain to the heart, by which the vital spirits do ascend from the heart to the brain to be animated, and hereby the imagination sends

unto the heart, those atoms which she hath received from some external object, and there they make an ebullition betwixt the vital spirits, which according to the intervening atoms, either cause a dilatation of the heart, and so gladden it; or they do contract it, and so sadden it: and these two differing and contrary actions are the first general effects, whence proceed afterwards the particular passions, which require not that I pursue them too far in this place, having done it more particularly elsewhere on purpose.

Besides these passages, which are common to all men and women, there is another that's peculiar onely to Females, which is from the Brain to the Matrix, whereby it often falls out that such violent vapours mount up to the brain, and those in so great a number, that they often hinder the operation of the brain, and of the imagination, causing Convulsions and follies, with other strange accidents, and by the same chanel the spi-

spirits or atomes pass with a greater liberty and swiftness to the Womb or Matrix when the case requires.

Now lets consider how the strong imagination of one man doth marvellously act upon another man who hath it more feeble and passive. We see daily, that if a person gape, those who see him gaping are excited to do the same. If one come perehance to converse with persons that are subject to excess of laughter, one can hardly forbear laughing, although one doth not know the cause why they laugh. If one should enter into a house where all the VWorld is sad, he becomes melancholy, for as one said, *Si vis me flere, dolendum est primum ipsi tibi*. VWomen and Children being very moist and passive, are most susceptible of this unpleasing contagion of the imagination. I have known a very melancholy woman, which was subject to the disease called the Mother, and while she continued in that mood, she thought her self possessed, and

did strange things, which among those that knew not the cause, passed for supernatural effects, and of one possessed by the ill spirit : she was a person of quality, and all this happened, because of the deep resentment she had for the death of her Husband : she had attending her four or five young Gentlewomen, whereof some were her Kinswomen, and others served her as Chambermaids. All these came to be possessed as she was, and did prodigious actions. These young maids were separated from her sight and communication, and as they had not yet contracted such profound roots of the evil, they came to be all cured by their absence ; and this Lady was also cured afterwards by a Physician, which purged the atrabilious humors, and restored her matrix to its former estate : there was neither imposture, or dissimulation in this.

I could make a notable recital of such passions that happened to the Nunnes at *London* ; but having done
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in a particular Discourse at my return from that Countrey, where I, as exactly as I could, discussed the point, I will forbear speaking thereof at this time, otherwise than to pray you to remember, that when two Lutes or two Harps, near one another, both set to the same tune, if you touch the strings of the one, the other consonant Harp will found at the same time, though no body touch it, whereof *Galileo* hath ingeniously rendered the reason.

Now to make application to our purpose of all that hath been produced to this effect, I say, that since it is impossible that two several persons should be so near one another, as the mother and the infant when he lies in the womb; one may thence conclude, that all the effects of a strong and vehement imagination, working upon another more feeble, passive and tender, ought to be more efficacious in the mother acting upon her son, than when the imaginations of other persons act

upon them who are nothing to them. And as it is impossible that a Master of Musick, let him be never so expert and exact, can tune so perfectly any two Harps, as the great Master of the Universe doth the two bodies of the Mother and the Infant ; so it follows by consequence that the concussion of the principal string of the Mother, which is the Imagination, ought to produce a greater shaking of the consonant string in the Infant, to wit, his Imagination, than the string of a Lute being touched, upon the consonant strings of another : and when the mother sends spirits to some parts of her body, the like must be sent to some part of the childs body.

Now lets call to memory how the imagination of the mother is full of corporal atoms, which come from the Mulberry, or Strawberry, which fell upon the neck, and breast, and her imagination being then surprized with an emotion by the suddenesse of the accident, it follows necessarily that she must send some of these

these atomes also to the brain of the infant, and so to the same part of the body where she took the stain first, 'twixt which and the braine there passe such frequent and speedy messengers, as we have formerly set forth. The Infant also on his part, who hath his parts also tuned in an harmonious consonance with the mothers, cannot fail to observe the same movement of spirits 'twixt his imagination and his neck, and his breast, as the mother did betwixt hers: and these spirits being accompanied with atoms of the Mulberry, which the mother conveyed to his imagination, they make a profound impression, and lasting mark, upon his delicate skin, whereas that of the mothers was more hard. As if one should let fly a Pistol charged with powder onely against a Marble, the powder doth nothing but fuly it a little, which may quickly be rubed off: But if one should discharge such a Pistol at a mans face, the grains of the powder would pierce the skin, and so stick and dwell there all his life time, and makee

make themselves known by their black-blewish colour, which they always conserve.

In like manner the small grains or atomes of the fruit which passed from the mothers neck to the imagination of the infant, and thence to the same place upon his skin, do lodge, and continually dwell there for the future, and serve as a source to draw the atomes of the like fruit dispersed in the air, according to their season, (as the wine in the Tunne, draws unto it the volatil spirits of the Vines) and in drawing of them that part of the skin where they reside ferments, swells, eats, and inflames, and sometimes breaks. But to render yet more considerable these marvellous marks of Longing, (since we are upon this subject) I cannot forbear to touch also another circumstance, which might seem at first to be a miracle of nature, beyond the causes which I have alleged : but having well eventilated it, we shall absolutely find that it depends upon the same principles :
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It is, that oftentimes it falls out, that the impression of the thing desired, or longed for by the mother, falls upon the child, although she touch it not, or that it falls upon her body; 'Tis sufficient that some other thing do fall, or unexpectedly beat upon some part of the woman with child, while such a longing doth predominate in her imagination, and the figure of the thing so long desired after, will be found at last imprinted upon the same part of the body of the Infant, as it was vpon the mother who received the blow. The reason hereof is, that the atomes of the thing longed for being raised up by the light, go to the brain of the mother with child through the chanel of the eyes, as well as other more material atomes, proceeding from the corporal touch, would go thither by the guidance of the nerves. And of these petty bodies, the mother forms in her imagination a complete model of that whence they flow forth by way of emanation. But if the woman be not attached but inwardly;

these

these atomes which are in her imagination, make no other voyage than to her heart, and thence to the imagination, and to the heart of the Infant, and so cause a re-inforcement of the passion in them both, which may be moved to such a violent impetuosity, that if the mother doth not enjoy her long'd-for object, this passion may caule the destruction both of the one and of the other, at least prejudice them notably in their health, and so make a great change in their bodies. In the mean time, if some unlooked-for blow surprize the mother in any part of her body, the spirits which reside in the brain are immediately sent thither by her imagination, as it happens often in this case of longing. But in all other such sudden surprizals, either among women or men, these spirits are transported with the more impetuosity, the more the passion is violent. As when one loves another passionately, he runnes suddenly to the dore when any knocks, or that — *Hylax in limine latrat,*
hoping

hoping always 'tis the party which entirely possessed his thoughts, (for *Qui amant, ipsi sibi somnia fingunt*) who comes to give him a visit: And these spirits being moved by this sudden assault, being then mingled with the petty bodies or atoms of the long'd-for thing which possesseth so powerfully the fantasie, they lead them along with themselves to the part of the body which is struck, as also to the same part of the body of the Infant, as well as to his imagination. And afterward all that which happened is but the same thing as well to the mother as the child, as when the Mulberry or Strawberry fell upon the neck or breast of the Ladies with whom I have entertained you.

Permit me, my Lords, to enlarge my digression a little further in one word, to declare unto you a marvellous accident, known all over the Court of *England*, in confirmation of the activity and impression which the imagination of the Mother makes upon the body of the Infant whereof she was big. A Lady that
was

was my Kinswoman, (she was the Niece of Madam *Foriescu*, the Daughter of Count *Arundel*) came to visit me sometimes in *London*; she was fair, and of a good feature, and she knew it well, taking great complacency, and not onely to keep her self so, but to adde that which she could further: thereupon she was perswaded that the Patches and Flies which she put upon her face, gave her a great deal of ornament, therefore she was careful to wear the most curious sort of them. But as it is very hard to keep a moderation in things which depend more upon Opinion than Nature, she wore them in excesse, and patched most of her face with them; although that did not much adde to her beauty, which I took the liberty to tell her; yet I thought it no opportunity then to do any thing that might give her the least distaste, since with so much civility and sweetnesse she came to visit me. Neverthelesse one day I thought good in a kind of drol-ling way (so that she might not
ap-

apprehend any discontentment)
 and *Ridentem dicere verum quis*
vetat ? to tell her of it ; so I let
 fall my discourse upon her big bel-
 ly, advising her to have a care of
 her health, whereof she was some-
 what negligent, according to the
 custome of young vigorous women,
 who know not yet what it is to
 be subject to indispositions ; she
 gently thanked me for my care
 herein, telling me, she knew no ex-
 traordinary thing she ought to do for
 her health, seeing she was well not-
 withstanding her bigness : you should
 at least, replied I, have a care of your
 child. O for that, said she, there is no-
 thing that can be contributed more.
 Yet, I told her, see how many patches
 you wear upon your face, are you
 not afraid that the Infant in your
 Womb may haply be born with such
 marks on his face ? But said she,
 What danger is there that my child
 should have such spots, though I
 wear flies ? Then you have not
 heard, replied I again, the mar-
 vellous effects that the imaginations
 of

of Mothers work upon the bodies of their children, while they are yet big with them, therefore I will relate unto you some of them ; and so I told her sundry stories upon this subject, as that of the Queen of *Ethiopia*, who was delivered of a white boy, which was attributed to a Picture of the Blessed Virgin, which she had always near the Teaster of her bed, whereunto she bore great devotion. I urged another of a woman who was brought to bed of a child all hairy, because of a portrait of Saint John Baptist in the wilderness, where he wore a Coat of Cammels hair. I related unto her also the strange antipathy which the late King *James* had to a naked sword, whereof the cause was ascribed, in regard some *Scotch* Lords had entred once violently into the bed-chamber of the Queen his mother, while she was with child of him, where her Secretary, an *Italian*, was dispatching some letters for her, whom they hacked, and killed with naked swords before her.

her face, and threw him at her feet ; and they grew so barbarous , that there wanted but little but that they had hurt the Queen herself, who endeavouring to save her Secretary, by interposing her self, had her skin rased in divers places , which *Buchanan* himself makes mention of. Hence it came that her son King *James* had such an aversion all his life-time after to a naked sword, that he could not see one without a great emotion of his spirits , although otherwise couragious enough, yet he could never over-master his passions in this particular. I remember when he dubbed me Knight. in the ceremony of putting the point of a naked sword upon my shoulder , he could not endure to look upon it, but turned his face another way ; insomuch that in lieu of touching my shoulder, he had almost thrust the point into my eyes , had not the Duke of *Buckingham* guided his hand aright.

I alleged her divers such stories, to make her apprehend that a strong imagination of the mother might cause some notable impresson upon the body of her child to its prejudice. Moreover, I pray consider how careful you are of your Patches, and that you have them continually in your imagination; for I have observed that you have looked upon them ten times since you came into this room in the Looking-glass. Do you not therefore fear that your child may be born with Half-moons upon his face? or rather that all the black Patches which you bear up and down in small portions, may assemble in one, and appear in the middle of its forehead, the most apparent and remarkable part of the visage, and may be as broad as a *Jacobus*; and then what a grace do you think, would it be to the child? O me! said she, rather than that should happen, I would wear no more Patches while I am with child. Thereupon at that instant she pulled them all off, and

and hurl'd them away. When her friends saw her afterwards without Patches, they demanded how it came to passe, that she who was esteemed to be one of the most curious Beauties of the Court, in point of Patches, should so suddenly give over the wearing of them. She answered, that her Uncle, in whom she had a great deal of confidence, assured her, that if she wore them during the time that she was with child, the Infant would have a large black Patch in the midst of his forehead. Now this conceit was so lively engraven in her imagination, that she could not be rid of it; and so this poor Lady, who was so fearful that her child might not bear some black mark in his face, she could not prevent, but that it came so into the world, and had a spot as large as a Crown of Gold in the midst of its forehead, according as she had before figured in her imagination: it was a Daughter that she brought forth, very beautiful throughout, this excepted, And 'tis

'tis but few moneths ago that I saw her bearing the said mole or spot, which proceeded from the force of the imagination of her Mother.

I need not tell you of your neighbour of *Carcassona*, who lately was brought to bed of a prodigious monstre, exactly resembling an Ape, which she took pleasure to look upon during the time she was with child, for I conceive you know the story better than I. Nor that of the woman of *St Maxient*, who could not forbear going to see an unfortunate Child of a poor woman, which was born without arms; and she her self was delivered afterwards of such a monstre; who neverthelesse had some small excrescencies of flesh upon the shoulders, about the place whence the arms should have come forth. As also of her who was desirous to see the execution of a Criminal, who had his neck broken according to the Laws of *France*, whereof she took
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an affrightment, which made so deep a print upon her imagination, that presently she fell in labour of her child, and before they could carry her to her lodging, she was brought to bed before her time of a child which had his head severed from his body, both the parts yet shedding fresh blood, besides that which was abundantly shed in the Womb, as if the Heads-man had done an execution also upon the tender young body within the matrix of the Mother. These three Examples, and many others truly alleged, which I could produce, although they manifestly prove the strength of the Imagination, would engage me too far, if I should undertake to clear the causes, and unwrap the difficulties which would be found greater than in any of those instances wherewith I have entertained you, because that those spirits had the power to cause such essential changes, and fearful effects, upon bodies that were already brought to their shapes of perfection,

and

and it may be well believed, that in some of them there was a transmutation of one species to another, and the introduction of a new informing form in the subject matter, totally differing from that which had been introduced at first, at least if that be true which most Naturalists tell us of, at the animation of the Embryo in the womb : but this digression hath been already too long,
Est modus in rebus, sunt certi denique fines,

Quos ultra citraque nequit consistere rectum.

To return then to the great channel, and thread of our Discourse, the examples and experiments which I have already insisted upon in confirmation of the reasons which I have alleged, do dearly demonstrate, that the bodies which draw the atoms dispersed in the aire, attract unto themselves with a greater power and energy such as are of their own nature, than such as are heterogeneous, and of a strange nature ; As wine doth the vinal spirits ; The oyl
of

of Tartar fermented by the levain of Roses, the volatil spirits of the rose; the flesh of deer, or venison buried in crust, the spirits of those beasts; and consequently all the other things whereof I have spoken.

The History of the Tarantula in the Kingdome of Naples is very famous; you know how the venome of this animal ascending by the hurt that the party hath received, being pricked therewith towards the head and the heart, doth excite in his Imagination an impetuous desire to heare some melodious airs, and most commonly they are delighted with differing aires; Therefore when they listen to an air that pleaseth them, they begin to dance incessantly, and thereby they fall a sweating in abundance, in such sort that this sweat makes a great part of the venome to evaporate, besides the sound of the musick doth raise a motion, and causeth an agitation among the aeriall and vaperous spirits which are in the braine, and about the heart, and diffused up and

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down

down through the whole body proportionably according to the nature and cadence of such Musick ; as when *Timotheus* transported *Alexander* the Great with such a vehemency to such and such passions as he pleased. In the like manner also it happens, that when one Lute doth sound, it makes the strings of the other to shake by the motions and tremblings which it causeth in the air, though it be not touched otherwise at all. We find also oftentimes that the sounds, which are no other things than the motions of the air, cause the like motion in the water ; as the sharp sound which is caused by rubbing hard with ones finger the brim of a glasse full of water, doth excite a noise, a turning, and bounding in the water of certain drops, as if the water did dance according to the cadence of the sound. The harmonious sound also of Bells, in those Countries where they use to be rung to particular tunes, doth make the like impression upon the superficies of the rivers that are nigh the

steeple,

steeple, especially in the night-time when there is no other motion, which stops or choaks the same. For the air being contiguous, or rather continuous with the water, and the water being susceptible of motion, there's the like motion caused in the fluid parts of the water as began in the air, and the same contact which is betwixt the agitated air, and the water which is by this means also moved, happens also to be betwixt the agitated air and the vaporous spirits which are in those bodies who have been bit by the Tarantula, which spirits by consequence are moved by the agitated air, that is to say, by the sound; and that the more efficaciously, as this agitation or sound is proportioned to the nature and temperature of the party hurt: And this intern agitation of the spirits and vapours helps them to discharge the vapourous venom of the Tarantula which is mixed among all their humours. In the like manner standing puddle-waters, and corrupted airs being

putrified by long repose, and the mixture of other noisom substances, are refined and purified by motion ; but Winter approaching, which devours these beasts, people are freed from this malady ; but at the return of the season, when they were pricked, the mischief comes again, and they must dance again as they did the year before : The reason is, that the heat of the Summer doth stir and raise up the venom of the beast, whereby it becomes as malignant and furious as it was before ; And the poison being heated, and evaporating it self, and dispersing in the air, the leven of the same poison, which remains in the bodies of them who have been hurt, draws it unto it self, whereby such a fermentation is wrought, which infects the other humours, whence a kind of smoke issuing, and mounting to the brains of these poor sick bodies, doth use to produce such strange effects.

It is also well known, that where there are great dogs or Mastiffs, as
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in *England*, if any be bitten perchance by any of these dogs, they commonly use to kill them, though they be not mad, for fear that the leven of the canine choler which remains within the body of the party bit draw unto it the malignant spirits of the same dog, which might come to distemper the spirits of the party : and this is not onely practised in *England*, where there are such dangerous dogs, but also in *France*, according to the report of Father *Cheron*, Provincial of the *Carmelites* in this Countrey, in his *Examen de la Theologie mystique*, newly imprinted, and which I have lately read. I will say nothing of artificial Noses, that are made of the flesh of other men, for remedy of the deformity of those who by an extreme excesse of cold have lost their own ; which new Noses do putrifie as soon as those persons out of whose substance they were taken come to die, as if that small parcel of flesh engrafted upon the face did live by the spirits it drew from its first root and source :

For although this be constantly avouched by considerable Authors, yet I will not insist more upon it, and desire you to think that I offer nothing unto you which is not verified by solid tradition, such as it were a weakness to doubt of it.

But it is high time that I should come now to my seventh and last Principle; it is the last turn of the Engine, and as I hope will quite batter down the gate which hinders us an entrance to the knowledge of this so marvellous a mystery, and which will imprint such a legitimate mark upon the doctrine which I hold forth, that it will passe for current money. This Principle is, that the source of these spirits, or the body which attracts them to it self, draws likewise after them that which accompanies them, as also that which sticks, and is glued and united unto them. This conclusion needs not much proof, being evident enough of it self; if there be nails, pins or ribbons tied to the end of a long cord or chain, and if there be a knurle

knurle either of wax, gum, or glue, and that I take this cord or chaine by one end, and draw it after me, until the other last end come to my hands, it cannot be otherwise but that I take into my hands at the same time the nail, the pins, the ribbons, the knurle, and all that is applied thereunto : I will therefore relate unto you onely some experiments that have been made in consequence of this Principle, which will most strongly confirm the others produced before.

The great fertility, and riches of England, consists chiefly in Pasturage for the nourishment of beasts. VVe have the fairest in the world, with abundance of other animals, and principally of Oxen and Cows. There's not the meanest Cottager but hath a Cow to furnish his family with milk. It is the principal sustenance of the poorer sort of people, as it is also in Switzerland, which makes them very careful in the good keeping, and health of their Cowes ; Now, if it happen that in bovlng the milk it

swells so high that it sheds over the brim of the skillet, and so comes to fall into the fire, the good woman, or maid, doth presently give over whatsoever she is doing, and runs to the skillet, which she takes off the fire, and at the same time takes a handful of salt, which useth to be commonly in the corner of the chimney to keep it dry, and throws it upon the cinders whereon the milk was shed : Ask her wherefore she doth so, and she will tell you, that it is to prevent, that the Cow which gave this milk may not have some hurt upon her udder, for without this remedy it would come to be hard and ulcerated, and she would come to piss blood, and so be in danger to die : Not that this extremity will befall her the very first time, but she will grow ill-disposed, and if this should happen often, would in a short time miscarry. It might seeme that some superstition or folly may lie herein, but the infallibility of the effect doth warrant from the last ; and for the first many believe that

that the malady of the Cow is supernatural, or an effect of Sorcery, and consequently that the remedy which I have alleged is superstitious; but it is easie to disabuse any man of this persuasion, by declaring how the businesse goes according to the foundations which I have laid; The milk falling from the burning coals is converted to vapour, which disperseth and filtereth itself through the circumambient air, where it meets the light, and the solar rays, which transport it further, augmenting and extending still farther the sphere of its activity: This vapour of the milk is not alone or single, but is composed of fiery atomes, which accompany the smoke and vapour of the milk, which mingle and unite themselves therewith; now the sphere of the said vapour extending it self unto the place where the Cow is, her Udder, which is the source whence the milk proceeded; attracts unto it the said malignant vapour, staying, and sticking it self there.

together with the fiery atoms that accompanied it. The Udder is in part glandulous, and very tender, and so consequently very subject to inflammations; and this fire doth heat, inflame, and make it swell, and in fine makes it hard and ulcerated. The inflamed and ulcerated Udder is near the Bladder, which comes likewise to be inflamed, making the *Anastomoses* and communication which is betwixt the veins and the arteries, to open, and to cast forth blood, and to regorge into the bladder, whence ordinarily the urine useth to come forth and empty itself. But whence comes it, you will say, that the salt remedies all this? It is because it is of a nature clean contrary to the fire, the one being hot and volatil, the other cold and fixed; insomuch that where they use to meet, the salt as it were knocks down the fire, by precipitating and destroying its action, as it may be observed in a very ordinary accident: The Chimneys which are full of soot use to take fire very

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easily, now, the usual remedy for that is to discharge a Musket into the funnel of the Chimney, which looseth and brings down with it the fired foot, and then the disorder ceaseth; but if there be no Musket or Pistol, or other instrument to draw down the foot, they use to cast a great quantity of salt on the fire below, and that choaks, and kindreth the atomes of fire, which otherwise would incessantly mount up, and joyn with them above, which by this means wanting nouriture consume themselves, and come to nothing; The same thing befalls the atomes which are in a train to accompany the vapour of the milk, for the salt doth precipitate and kill it upon the very place, and if any do chance to scape, and save themselves by the great strugglings they make, and go along with the said vapour, they are nevertheless accompanied with the atomes and spirit of the salt which stick unto them, which like good wraстlers never leave their hold untill they have got the better of their adversary

versary : And you shall observe by the by, that there is not a more excellent balme for a burne, than the spirit of salt in a moderate quantity. It is then apparent, that it is impossible to employ any meanes more efficacious to hinder the ill effects of the fire upon the udder of the Cow, than to cast upon her milk, being shed over upon the cinders, a sufficient quantity of salt. This effect touching the conservation of the Cowes udder in case of burning of her milke, makes me call to mind that which divers have told me to have seen both in France and England, viz. when the Physicians do examine the milk of a nurse for the child of a person of quality, they use to make proofes sundry wayes before they come to judge definitively of the goodnesse thereof, as by the taste, by the smell, by the colour, and consistence thereof ; And sometime they cause it to be boyled untill it come to an evaporation, and see its residue, with other accidents and circumstances, which may be learnt and discerned by

by these means ; But those of whose milk this last experiment hath been made, feel themselves tormented in their papps and duggs, while their milk is a boyling ; therefore having once endured this pain, they will never consent that their milk shall be carried away out of their sight and presence, although they will willingly submit to any other proof than that by fire. Now to confirm this experiment of the attraction which the Cowes Udder makes of the fire, and vapour of the burned milk, I am going to declare unto you another of the same nature, whereof I my self have seen the truth more than once, and whereof any one may easily make tryal. Take the excrements of a dog, and hurl it into the fire more than once, at the beginning you shall find him heated, and moved, but in short time you shall see him as if he were burned all over, panting, and stretching out his Tongue, as if he had run a long course : Now, this alteration befalls him because his Entrailes drawing

into them the vapour of the burn'd
 excrement, and with that vapour the
 atomes of fire which did accompany
 it, they are so changed and inflam'd,
 that the dog having always a Fever
 upon him, and not being able to take
 any nourishment, his flanks do lock
 up, which causeth his death at last.
 It were not proper to divulge this
 experience among such persons as
 are subject to make use of any thing
 for doing of mischief, for the same
 effects which happen to beasts, would
 fall upon mens bodies, if one should
 try such a conclusion upon their ex-
 crements: There happened a remar-
 kable thing to this purpose to a
 neighbour of mine in *England* the
 last time he sojourned there: He
 had a very a pretty and delicate child,
 and because he would have his eyes
 always upon him, he entertained
 the Nurse at his house, I saw him of-
 ten, for he was a man much ver-
 sed in businesse, and I had occa-
 sion to use such a man: One day
 I found him very sad, and his wife a
 weeping, whereof demanding the
 reason,

reason, they told me that their little child was very ill, and that he had a Burning-fever, which inflamed all his body over, which appeared by the rednesse of his face, that he forced himself to go to stool, but he could do little, and that little which he did was covered with bloud, and that he refused also to suck ; and that which troubled them most was, that they could not conjecture any cause how this indisposition should befall him, for his Nurse was very well, her milk was as good as could be wished, and in all other things there was as much care had of him as could be. I told them that the last time I was with them, I observed one particularity whereof I thought fit to give them notice, but something or other still diverted me ; it was, that their child making a sign that he was desirous to be set on his feet, he let fall his Excrements on the ground ; and his Nurse presently took the Fire-shovel, and covered it with embers, and then threw all into the fire. The mother began to
make

make her excuses, that they were not so careful to correct this ill habit of the child, saying that as he advanced in years he should be corrected for it. I replied, that 'twas not for this consideration that I held this discourse with her, but I was curious to know the reason of her child's distemper, and consequently to find some remedy; and thereupon I related unto them the like accident, which had happened two or three years before to a child of one of the most illustrious Magistrates of the Parliament of *Paris*, who was bred up in the house of a Doctor of Physick, of great reputation in the same Town: I told them also what I have now related unto you touching the excrements of dogs; and I made reflections unto them upon that which they had often heard, and which is often practised in our Country, which is, that within the Villages, which are always dirty in the Winter, if it happens that there be a Farmer who is more cleanly than others, and keeps more neatly the ap-

approaches to his house than his neighbours do, the boys use to come thither in the night-time, or when it begins to be dark, to discharge their bellies there, because that in such Villages there is not much commodity of easements : besides that in such places, so fitly accommodated, these gallants, the boyes, are out of danger to sink into the dirt, which otherwise might rise up higher than their shooes ; but the good Houfwifes in the morning when they open their doors, use to find such an ill favoured smell, that it transports them with choler : but they who are acquainted with this trick go presently and make red-hot a broach or fire shovel, and then thrust it into the excrements all hot, and when it grows cold, they heat it again oftentimes to the same purpose : In the mean time the boy which made the ordure feels a kind of pain and Colick in his bowels, with an Inflammation in his fundament, and a continuall desire to go to stool, and he is hardly quit of it
till

till he suffer a kind of Fever all that day, which is the cause that he returns thither no more : And these women to be freed from the like affronts do passe among the Ignorant for Sorceresses, and Witches, being they can torment people in that fashion without seeing or touching them. This Gentleman did not disallow what I told him, but was confirmed further when I bid him look into the Fundament of his child, for without doubt he would find it very red, and inflamed ; and that if he looked, he should find that it was full of pimples, and excoriated ; It was not long after that this poor little languishing child with much pain and pitifal cries, voyded some small matter, which instead of suffering it to be cast into the fire, or covered with Embers, I caused to be put into a Bason of cold water which was set in a fresh place, which was continued to be done every time.

time that the child gave occasion. He began to amend the very same hour, and within four or five days he was perfectly well recovered. But fearing to trespasse too much upon your patience, I will entertain you but with one Experiment more very familiar in our Countrey; and afterwards I will make a summary of all that hath been said, to make you perceive the force and value of this whole Discourse.

We have in *England* (as I touched before) excellent pasturage, which nourish and fat the Cattel so abundantly, that it falls out often, that the Oxen have so excessive store of fat, that it doth extend it self in a great quantity to their legs, as also to their feet and hoofs, which oftentimes causeth Impostumes in the bottom of their feet, which swell, and cast out a great deal of filth and purulent matter, which hindereth the beast to go: The owners are very sorry when they observe it, though the Beef be
never

never the worse for the Shambles, yet are they damnified thereby, in regard that not being able to bring them to *London*, (where the best market is for fat Beefs through all *England*, as *Paris* is for *Auvergne*, *Normandy*, and other Provinces of *France*) I say, the Graziers not being able to bring them to *London*, they are constrained to kill them upon the place, where their flesh is not worth half the price that they might have got in *London*. Now there is a remedy for this inconvenience, which is, that one must observe where the Ox, Cow or Heifer doth set upon the earth his sick foot, the first time that he riseth up in the morning, and in that very place one must cut out a green Turf of that earth where the beast hath trod with that foot, and put this Turf upon a tree, or upon a hedge lying open to the North wind; and if that wind come to blow upon the Turf of earth, the beast will be cured within three or four days very perfectly; but

but if one should put that Turf towards the South wind, or South-west (which in *Tholouze* is called *d'Antant*, here in *Montpellier le Marin*, and in *Italy le Scirrocco*) the distemper in the Ox will increase. These Circumstances will not seem superstitious unto you, when you shall have considered how that by the repose of the night the corrupt matter or core doth use to gather in a great quantity under the foot of the sick Ox, and coming in the morning to set his foot upon the ground, he presseth forth the Impostume, the matter whereof sticks to that part of the earth, and makes impressions upon it: Now this Turf of earth being put and exposed in some proper place to receive the dry cold blasts of the Northern winds, the dry cold blasts of that wind do intermingle with the said corrupted impostumated matter, which stretching its spirits all along the air, the ulcerated foot of the animal, which is the source of all, draws them unto it,

and

and with them it attracts also the cold dry atoms which cause the cure, the malady requiring no other help, than to be well dried and refreshed. But if one should expose this turf to a moist hottish wind, it would produce contrary effects.

Behold, my Lords, all my wheels formed, I confess they are ill fil'd and polish'd, but let us try whether being put together, and mounted, they will make the Engine go; but if these wheels being well joyned and placed to draw the conclusion, or this unshaken Carraque to a good Port, you will, I presume, have the goodness to pardon the gross and rude expressions of my language, and passing by the words you will content yourselves with the naked truth of things. Let us therefore apply that which hath been spoken to that which is practis'd when a wounded person is cured. Let us consider Master *Howell* wounded upon his hand, and a great inflammation happened upon his hurt, his Garter is taken covered with the

the bloud that issued from the wound, it is steeped in a bason of water where Vitriol was dissolved, one keeps the bason in the day-time in a Closet, in the moderate heat of the Sun, and at night in the Chimney-corner, in such sort that the bloud which is upon the Garter may be always in a good natural temperament, neither colder nor hotter than in the degree required for a healthful body; what ought then to result (according to the Doctrine that we endeavour to establish) from all this? In the first place the Sun and the Light will attract from a great extent and distance the spirits of the bloud which are upon the Garter, and the moderate heat of the Hearth, which acts gently upon the composition (which comes to the same thing as if one should carry it dry in his pocket to make it feel the temperate heat of the body) I say the moderate heat of the Hearth doth push out the said atoms, as the water which gathers it self round in the filtration or strainings drives

drives on that which mounts up, to make it go faster, and more easily, making it also to dilate it self, and distill, and so march of themselves a good way in the air, to help thereby the attraction of the Sun and of the Light.

Secondly, the spirit of the Vitriol, being incorporated with the blood, cannot chuse but make the same voyage together with the atomes of the blood. Thirdly, the wounded hand expires, and exhales in the mean time continually abundance of hot fiery spirits, which gush forth as a river out of the inflamed hurt; which cannot be but that the wound must consequently draw unto it the air which is next it. Fourthly, this aire drawes unto it the other air which is next it, and that the next to it also, and so there is a kind of current of air drawn round about the wound. Fifthly, with this air come to incorporate, at last, the atomes and spirits of the blood, and of the Vitriol, which were diffused and shed

a good way off in the air by the attractions of the Light, and of the Sun. Besides, it may well be, that from the beginning, the orb and sphere of these atomes and spirits did extend it self in so great a distance without having need of the attractions of the air, or of the light, to make them come thither. Sixthly, these atoms of bloud finding the proper source and original root whence they came, do stay and stick there, and so re-enter into their natural beds and primitive receptacles; whereas the other air is but a passenger, and evaporates away as soon as it comes, even as when it is carried away through the funnel of the Chimney, so soon as it is drawn into the Chamber by the door. Seventhly, the atomes of the bloud being joyned inseparably with the spirits of the Vitriol, both the one and the other do joyntly imbibe together within all the corners, fibres and orifices of the veins which lie open about the wound of the party hurt,

G

which

which hereby are comforted, and in fine imperceptibly cured.

Now to know wherefore such an effect and cure is so happily performed, we must examine the nature of Vitriol, which is composed of two parts, the one fixed, the other volatile. The fixed, which is the Salt, is sharpe and biting, and caustique in some degree. The volatile is smooth, soft, balsamical, and astringing, and it is for that reason that Vitriol is made use of as a soveraign remedy in the medicine for the inflammations of the eyes, and when they are corroded, and scorched by some sharp and burning humour or defluxion. As also in injections where excoriations and scaldings use to happen, as also in the best plaisters to stanch the blood, and incarnate the hurt. But they who well know how to draw the sweet oil of Vitriol. which is the pure volatil part thereof, know also that in the whole closet of Nature there is no balm like this oil. For this

this balme of sweet oyl doth heal in a very short time all kinde of hurts which are not mortal, it cures and consolidates the broken veines of the breast, as farre as the ulcers of the lungs, which is an incurable malady without this balme. Now it is the volatil part of the Vitriol, which is transported by the Sun (the great Distiller of nature) and which by that means doth dilate it self in the air, and that the wound, or part which received the hurt, draws and incorporates with the blood, together with its humours and spirits. And that being true, we cannot expect a greater effect of the volatil Vitriol, but that it should shut the veines, stanch the blood, and so in a short compasse of time heale the wound.

The method and primitive manner how to make use of this sympathetical remedy, was to take onely some Vitriol, and that of the common sort, as it came from the Drug-gists, without any preparation or

addition at all, and to dissolve it in fountain water, or rather in rain water, in such a proportion, that putting therein a knife, or some polished iron, it should come out changed into the colour of copper : And into this water they did put a clout, or rag of cloth embrued with the blood of the party hurt (the rag being first dry) but if it was yet fresh, and moist with the reaking blood, there was no need but to powder it with the small powder of the same Vitriol, in such sort, that the powder might incorporate it self, and imbibe the blood remaining yet humid, and keep both the one and the other in a temperate heat, and place, *viz.* the powder in ones pocket, and the water (which admits not of this commodity) in a chamber where the heat was temperate, and every time that one put new water of vitriol with fresh powder and new cloth, or other bloodied stuff, the patient should feel new easement as if the wound had been then dress'd with some soveraign medicament. And for this

this reason they used to reiterate this manner of dressing both evening and morning.

But now, the most part of those who make use of this remedy of the Powder of Sympathy, doe endeavour to have Vitriol of *Rome*, or of *Cyprus*, and calcine it white in the Sun: And besides, some use to add the Gumm of *Tragacanth*: *Facile est invenis ad-dere.*

For my part, I have seen such great and admirable effects of plain Vitriol of eighteen pence the pound, as of that Powder which is used to be prepared now at a greater price: yet notwithstanding I do not blame the present practise? on the contrary I commend it, for it is founded upon reason.

First, it seems that the purest and best sort of Vitriol doth produce the best operation.

Secondly, it seemes also that the moderate calcining thereof at the rayes of the Sun doth take away the superfluous humidity of the

Vitriol ; and this calcination doth not touch any part but that which is good: as if one should boyl broth so cleer that it comes to be gelly, which certainly would render it more nourishing.

Thirdly, it seems that the exposing of the Vitriol to the Sun to receive calcination, renders its spirits more fitly disposed to be transported through the air by the Sunne when need requires.

For it ought not to be doubted but that some part of the æthereall fire of the solar rayes doth incorporate with the Vitriol, as it is plainly discovered by calcining Antimony with a burning-glasse, for it much augments the weight of it almost half in half ; and in this case the part of that luminous substance which remains in the Vitriol, thus is made apt, and disposed to be carried in the aire by a semblable light, and solar rayes. As we see that to make the tongue of a pumpe draw the water easier from the bottome of a well,

well, one doth use to cast a little water from above upon it. Now the Light carrying with it so easily the substance that is so connatural to it, carries also with the more facility that which is incorporated with it.

Fourthly, these Solar rays being embodied with the Vitriol, are in a posture to communicate unto it a more excellent virtue than it hath of it self, as we find that Antimony calcin'd in the Sun, becomes (whereas it was rank poison before) a most sovereign and balsamical medicament, and a most excellent strengthener of nature.

Fifthly, the Gumme of Tragacanth, having a glutinous faculty, and being for the rest very innocent, may contribute something towards the consolidation of the wound.

My Lords, I could adde unto what is spoken many most important considerations touching the form and essence of Vitriol, whereof the

substance is so noble, and the origin so admirable, that one may avouch with good reason, that it is one of the most excellent bodies which Nature hath produced.

The Chymists do assure us, that it is no other than a corporification of the universal spirit which animates and perfects all that hath existence in this sublunary world, which is drawn in that abundance by a Lover so appropriated, by means whereof I my self have in a short time, by exposing it onely unto the open air, made an attraction of a celestial Vi-
triol ten times more in weight, which was of a marvellous purenesse and virtue; a privilege which hath not been given but to it, and to pure virgin Salt-peter.

But to anatomize, as we ought, the nature of this transcendent individual, which neverthelesse in some fashion may be said to be universal, and fundamental to all bodies, it would require a Discourse far more ample than I have yet made. But

as I perceiue I have already entertained you so long a time, it would prove a very great indiscretion to trench further upon your goodness, who have hitherto listened unto me with so much attention, and patience, if I should go about to enter into any new matter, and embark my self for a further voyage. Wherefore remitting divers matters to some other time, when you shall please to order me, coming now again to the general consideration of this Sympathetical cure, I will put a period to this Discourse, after that I shall have told you two or three words, which will not be of small importance for the confirmation of all which hath been alleged by me hitherto.

I have deduced unto you the admirable causes of the operations, and strange effects of the Powder of Sympathy from their first root. These fundamentall causes are so enchainning one within the other, that it seems there can be no default, stop, or interruption, in their pro-

ceedings. But we shall be the better fortified in the belief of their vertue and efficacy, and how they come to produce the effects of so many fair cures, if we consider that then when some change is practised in one of these causes, or in all of them together, we see and perceive immediately an effect altogether differing from the former. If I had never seene a Watch or Clock, I should be justly surprized, and should remaine astonished to see a hand, or a needle so regularly mark the journal hours, and motion of the Sun, upon the flat of a Quadrant ; and that it should turn, and make its round every four and twenty hours, there being nothing seene that should push on the said needle: But if I look on the other side, I see wheels, ressorts, and counterpoises, which are in perpetuall motion ; which having well and soberly considered, I presently suspect that those wheels are the cause of the motion, and turnings of the said Needle: although I cannot presently discern
or

or know how those moving wheels do cause a motion in the needle of the Quadrant, because of the plate that lieth interposed betwixt them. Therefore I reason thus within my self; That every effect whatsoever must have of pure necessity some cause, and therefore that the body moved there ought necessarily to receive its motion from some other body which is contiguous to it: Now I see no other body which makes the Needle of the Quadrant to move and turn, than the said wheels, therefore I must of force be perswaded to attribute the motion unto them. But afterwards, when I shall have stopped the motion of those wheels, and taken away the Counterpoise, and observed that suddenly the Needle ceased to move, and that applying again the Counterpoise, and giving liberty for the wheel to turn, the Needle returns to her ordinary train, or by making one wheel to go faster by putting my finger unto it, or by ad-
ding;

ding more weight to the Counterpoise, the Needle doth hasten and advance its motions proportionably. Then I grow to be convinced and entirely satisfied, and so I absolutely conclude that these wheels and counterpoises are the true cause of the motion of the Needle.

In the same manner, if interrupting the action of any of those causes which I have established for the true foundation of the Sympathetical Powder, I alter, retard, or hinder the cure of the wound ; I may boldly conclude, that the foresaid causes are the legitimate and genuine true causes of the cure, and that we need not amuse our selves to make indagations for any other.

Let us then examine our businesse by that Bias. I have affirmed that the Light transporting the atoms of the Vitriol and of the bloud, and dilating them to a great extent in the air, the wound or place hurt doth attract them, and thereby is immediately solaced and eased, and consequently

quently comes to be healed by the spirits of the Vitriol, which is of a Balsamical virtue. For if you put the Bason or Powder, with the cloth embrued with bloud, within an Armory, or into a corner of some cold room, or into a Cave, where the light never comes, nor fresh air, which makes the place corrupted, and to have ill smells, in that case the wound can receive no amendment, nor any good effect from the said Powder. And it will fall out in the same manner, if having put the Bason or Powder in some by-corner, and that you cover it with some thick, stuffing and spongy cloth, which may imbibe the atoms that use to come forth, and which retain the light and rays which enter therein, whereby they are stopped, and quite lost. Moreover, if you suffer the water of Vitriol to congeal into ice, wherein the cloth is dipped, the party hurt shall be sensible at the beginning of a very great cold in his wound; but when it is iced all over, he shall feel
nei-

neither heat nor cold, in regard that congealed cloth doth constipate the pores of the water, which nevertheless doth not cease to transpire and send forth spirits. If one should wash the cloth spotted with blood in Vineger or Lye, (which by their penetrating acrimony transport all the spirits of the blood) before the Vitriol be applied, it will produce no effect; yet if it be washed but with pure simple water, it may neverthelesse do something, for that water carries not away so much; but the effect will not be so great, as if the blood-spotted piece had not been washed at all, for then it is full of the spirits of the blood. The same cure is performed by applying the remedy to the blade of a sword which hath wounded a person: if it come not to passe that the sword be too much heated by the fire, for then it would make all the spirits of the blood to evaporate, and in that case the sword would serve but a little to perform the cure. Now the reason why the sword may be

be dressed in order to the cure, is, because the subtile spirits of bloud do penetrate the substance of the blade, as far as the extent which the sword made within the body of the wounded party, where they use to make their residence, there being nothing to chase them away, unlets it be the fire, as I said before. For experiment whereof, hold it over a Chafing-dish of moderate fire, and you shall discern on the side opposite to the fire a little humidity which resembleth the spots that ones breath makes upon Looking-glasses, or upon the burnished blade of a sword : if you look upon it athwart some glasse which makes the object seem bigger, you shall find that this soft dew of the spirits consists in little bubbles or blown bladders ; and when once they are entirely evaporated, you shall discern no more upon the weapon, unless it were thrust anew into the body of a living person. Nor from the beginning shall you discover any such thing, but precisely upon that part of
the

the blade, which had entered the wound.

This subtil penetration of the spirits into the hard steel, may confirm the belief of the entrance of such spirits into the skin of a woman big with child, as I remind to have proposed unto you in my sixth Principle, remarkable in its own place. Now then, while the spirits lodge in the sword, they may serve as great helps for the cure of the Patient, but when the fire hath driven them all away, the remedy applied to the sword will not avail any thing at all. Furthermore, if any violent heat accompanies these atoms, it inflames the wound; but common salt may remedy that, the humidity of water humectates the hurt, and the cold causeth a chilnesse in the party wounded.

To confirm all these particulars, I could adde to those I have already related many notable Examples more, but I fear I have already too much exercised your patience, therefore I will on purpose pretermit the
men.

mentioning of them at this time, but I offer to entertain in particular any of this honourable Assembly therewith, if they have the curiosity to be informed of them.

I conclude then, *Messieurs*, by representing unto you that all this mystery is guided and governed all along by true natural ways and circumstances, although by the agency and resorts of very subtil spirits.

I am perswaded my Discourse hath convincingly shewed you, that in this Sympathetical cure there is no need to admit of an action distant from the Patient. I have traced unto you a real Communication 'twixt the one and the other, *viz.* of a Balsamical substance, which corporally mingleth with the wound.

Now it is a poor kind of pusillanimity and faintnesse of heart, or rather a grosse ignorance of the Understanding, to pretend any effects of Charm or Magick herein, or to confine all the actions of Nature to the grosnesse of our Senses, when we have not sufficiently considered,
nor

Not examined the true causes and principles whereon 'tis fitting we should ground our judgment : we need not have recourse to a Dæmon or Angel in such difficulties.

*Nec Deus interfit, nisi dignus vindice
nodus*

Incideris ———

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